[Submitting Counsel on Signature Page]

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

IN RE: SOCIAL MEDIA ADOLESCENT ADDICTION/PERSONAL INJURY PRODUCTS LIABILITY LITIGATION	No. 4:22-MD-3047 MDL No. 3047
This Document Relates to: ALL ACTIONS	**PLAINTIFFS' FIRST AMENDED MASTER COMPLAINT (LOCAL GOVERNMENT AND SCHOOL DISTRICT)** **JURY TRIAL DEMANDED**

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I. INTRODUCTION

1. Local Governments and School Districts across the nation—including the Plaintiff school districts, counties, and municipal governments—are battling an unprecedented mental health crisis among the children they serve.[1] Ever-increasing numbers of children compulsively use Defendants' platforms, resulting in a situation that not only harms individual children and their loved ones but also causes substantial and financially burdensome interference with school district, county, and municipal operations.

2. School districts and local governments are on the front lines of redressing the damage caused by Defendants' deliberate choice to design, develop, operate, promote, distribute, and market their social media platforms to attract and addict youth.

3. Public education serves as the cornerstone of a just and equitable society, with its mission extending far beyond merely imparting knowledge. It is a fundamental duty to nurture the minds of our children. Public school districts are facing serious financial and resource disruptions, interfering with their educational mission, caused by Defendants' design, development, production, operation, promotion, distribution, and marketing of addictive and dangerous social media platforms targeting minors. As a result of Defendants' conduct, public school districts have been forced into a constant struggle for students' attention, as well as a constant struggle to provide the social, emotional, mental health, and learning support they need. From addressing the use of Defendants' platforms during class, in violation of school policy, to increased need for anxiety and depression counseling, the Plaintiff school districts have devoted substantial resources to combatting students' addiction to social media and the many resulting harms. School districts have even needed to revise lesson plans and teaching methods to account for the unique way that this social-media generation thinks, including reduced attention spans and reduced capacity for critical thinking.

[1] The phrases "Local Government and School District Plaintiffs" and "Plaintiffs" refer to all public school districts, counties, county district attorneys, and municipal governments that have brought, or in the future will bring, lawsuits in this MDL against some or all of these social media Defendants.

4. Defendants' conduct has left school districts struggling to provide emotional and mental health support to students. School districts are the primary providers of mental health services to youth,[2] and are charged with an important public service of educating youth consistent with citizens' right to public education. Responding to the mental health crisis caused by Defendants is stealing resources from schools' primary objective of educating youth in a safe and healthy environment. In addition to teaching our children how to read and write, school districts' fundamental duty to educate students extends to teaching them how to lead healthy lives, including navigating the digital world we live in. Schools cannot ignore the importance of the online world in today's society. But teaching youth how to avoid the pitfalls of that world, including the addictive and dangerous features of Defendants' platforms, requires ever-increasing time and resources. Schools' limited resources are pitted against Defendants' virtually unlimited resources in that fight. This is not a fair fight, and despite considerable effort, schools are losing the battle.

5. Municipal and county governments are similarly burdened with time and expenses necessary to treat and address the youth mental health crisis that Defendants have caused. Municipal and county governments around the country provide a variety of mental health services as well as other community-based services such as outpatient therapy, behavioral health services, and after-school programming for youth. They are unable to keep up with the demand for these services due in large part to the mental health crisis caused by addiction to, and excessive use of, Defendants' social media platforms.

6. For example, Defendants have caused municipal and county governments to expend, divert, and increase resources (including tax dollars) to provide additional mental health resources to hire additional counselors and personnel; to train staff on the harmful effects of social media; to

[2] *K-12 Schools Now Primary Providers of Mental Health Services for Adolescents*, EAB (Feb. 13, 2020) https://eab.com/insights/press-release/district-leadership/k12-schools-primary-provider-mental-health; *National Survey on Drug Use and Health*, SAMHSA (2019 & 1st & 4th Qs. 2020), https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables (reporting that over 3.7 million children ages 12–17 received mental health services in an education setting in 2019, more than any other non-specialty mental health service setting).

create educational materials addressing social media addiction and harm; to investigate and prosecute crimes that result from Defendants' conduct and addictive platforms and the resulting youth mental health crisis; to investigate threats made against schools, students, and members of the community over social media; to alleviate the strain placed on local governments' departments of health and human services, as well as community-based services such as outpatient therapy, behavioral health services, after school programs, and other similar services and programming; and to repair property damage resulting from Defendants' conduct and addictive platforms.

7. In the past decade, American children's engagement with social media has grown exponentially. That explosion in usage is no accident. Defendants, through their social media platforms—specifically Instagram, Facebook, TikTok, Snapchat, and YouTube—intentionally induced young people to use their platforms compulsively. Borrowing from the behavioral and neurobiological techniques used by makers of slot machines and tobacco products, Defendants deliberately embedded design features in their platforms to maximize youth engagement to drive advertising revenue. Defendants know young people are in a developmental stage that leaves them particularly vulnerable to the addictive effects of these features. Defendants target them anyway in pursuit of additional profit.

8. The specific design features of Defendants' platforms vary, but all exploit children and adolescents to the detriment of all of the Local Government and School District Plaintiffs. These dangerous and harmful design features include, but are not limited to, failure to implement robust age verification processes to determine users' ages; failure to implement effective parental controls; failure to implement effective parental notifications; failure to implement opt-in restrictions to the length and frequency of use sessions; failure to enable default protective limits to the length and frequency of use sessions; creating barriers that make it more difficult for users to delete and/or deactivate their accounts than to create them in the first instance; failure to label content that has been edited, such as by applying a filter; making filters available to users so they can, among other things, manipulate their appearance; failure to create adequate processes for users to report suspected Child Sexual Abuse Material ("CSAM") to Defendants' platforms; and automated

attention farming through content-agnostic algorithms and recommendations fed by data about user interactions.

9. These design features deliberately exploit the psychology and neurophysiology of young people. Because children's and adolescents' brains are not fully developed, they lack the same emotional maturity, impulse control, and psychological resiliency as adults. As a result, they are uniquely susceptible to addictive features in digital products and highly vulnerable to the resulting harm. Knowing this, Defendants wrote code designed to manipulate dopamine release in children's developing brains and, thereby, create compulsive use of their platforms.

10. The resulting ubiquity of Defendants' platforms in the palms, brains, and lives of students and other young people across the country—and the ensuing harm to school districts and local governments—is hard to overstate. Today, over one-third of 13- to 17-year-old children report using one of the Defendants' apps "almost constantly" and admit this is "too much." Yet, more than half of these kids report that they would struggle to cut back on their social media use—which is due to the addictive design of the platforms. Instead of feeding coins into slot machines, kids feed Defendants' platforms with an endless supply of attention, time, and data.

11. A growing body of scientific research, including Defendants' own (previously concealed) studies, draws a direct line between Defendants' conscious, intentional design choices and the youth mental health crisis gripping our nation. Instagram, Facebook, TikTok, Snapchat, and YouTube have rewired how adolescents think, learn, feel, and behave. Disconnected "Likes" have replaced the intimacy of adolescent friendships. Mindless scrolling has displaced the creativity of art, play, and sport. While presented as "social," Defendants' platforms have promoted disconnection and disassociation, resulting in substantial mental harms that are now left to school districts and local communities to address.

12. The U.S. Surgeon General recently explained that children versus Big Tech is "just not a fair fight."[3] "You have some of the best designers and product developers in the world who have designed these products to make sure people are maximizing the amount of time they spend on these platforms. And if we tell a child, use the force of your willpower to control how much time you're spending, you're pitting a child against the world's greatest product designers."

13. Young people, including the students in the Plaintiffs' school districts and communities, are in this battle against Big Tech because they are central to Defendants' business models.[4] Young people are highly connected to the Internet, more likely to have social media accounts, and more likely to devote their downtime to social media usage. Additionally, young people influence the behavior of their parents and younger siblings. As one Defendant put it, "los[ing] the teen foothold in the U.S." would mean "los[ing] the pipeline" for growth.[5]

14. Defendants' strategy paid off, literally. Users of their platforms now number in the billions, and the frequency and time spent by them has grown exponentially. Their enormous reach allows Defendants to harvest a vast amount of personal user data from minors—from the school they attend, to the sneakers they covet, to the places they've been and the people they've met. This, in turn, allows Defendants to mint a fortune by selling to others the ability to micro-target advertisements to incredibly specific slices of Defendants' user bases.[6]

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[3] Allison Gordon & Pamela Brown, *Surgeon General says 13 is 'too early' to join social media*, CNN (Jan. 29, 2023), https://www.cnn.com/2023/01/29/health/surgeon-general-social-media/index.html.

[4] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; *see also* Haugen_00022339.

[5] Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), https://www.nytimes.com/2021/10/16/technology/instagram-teens.html.

[6] *See* Snap, Inc., 2022 Annual Report (Form 10-K) at 15 (Jan. 31, 2023) ("[W]e rely heavily on our ability to collect and disclose data[] and metrics to our advertisers so we can attract new advertisers and retain existing advertisers. Any restriction or inability, whether by law, regulation, policy, or other reason, to collect and disclose data and metrics which our advertisers find useful would impede our ability to attract and retain advertisers.").

15. Defendants' choices to design, develop, produce, operate, promote, distribute, and market their social media platforms in ways that are harmful to minors have generated extraordinary corporate profits—and yielded immense tragedy. Fueled by social media addiction, youth suicide rates are up an alarming 57%. Emergency room visits for anxiety disorders are up 117%. In the decade leading up to 2020, there was a 40% increase in high school students reporting persistent sadness and hopelessness, and a 36% increase in those who attempted to take their own lives. In 2019, one in five high school girls had made a suicide plan. In 2021, one in three girls seriously considered attempting suicide.

16. Defendants knew their actions seriously impacted young people and school districts, yet Defendants have refused to change their conduct.[7] Indeed, Defendants recognized the importance of infiltrating high schools to their platforms' success. Meta, for example, categorizes high schools as either Facebook or non-Facebook and analyzes Instagram penetration on a school level, i.e., which school Instagram users attend.[8] Similarly, TikTok's internal documents reveal that it knew it was disrupting students' school days and their sleep, thereby making focusing and paying attention at school more difficult.[9] Once Snapchat knew it appealed to school-aged children, it "ran with it and never looked back."[10] And YouTube directly advertises itself for use in schools, creating "tips and tricks for bringing YouTube into the classroom."[11] Defendants also sell information regarding students' social media use to advertisers who wish to target youth at school, when they are around other youth, thereby increasing the spread of their advertisements.

17. The U.S. Surgeon General recently issued an advisory "to highlight the urgent need to

[7] *See, e.g.*, META3047MDL-003-00084526.

[8] *See, e.g.*, META3047MDL-003-00134688; META3047MDL-003-00022355.

[9] *See, e.g.*, TIKTOK3047MDL-001-00061318.

[10] *How Snapchat Gained Success By Going Viral At High Schools Across Los Angeles*, Forbes (Feb. 16, 2018, 1:20 pm) https://www.forbes.com/sites/quora/2018/02/16/how-snapchat-gained-success-by-going-viral-at-high-schools-across-los-angeles/?sh=6f1676083b36.

[11] Teachers, YouTube, https://www.youtube.com/Teachers (last visited Dec. 12, 2023).

address the nation's youth mental health crisis."[12] In a scathing rebuke of the assault on our children, the Surgeon General recognized the dangerous designs in Defendants' platforms and Defendants' abdication of responsibility for the resulting harms:

> In these digital public spaces, which are privately owned and tend to be run for profit, there can be tension between what's best for the technology company and what's best for the individual user or for society. Business models are often built around maximizing user engagement as opposed to safeguarding users' health and ensuring that users engage with one another in safe and healthy ways . . . .
>
> **[T]echnology companies must step up and take responsibility for creating a safe digital environment for children and youth.** Today, most companies are not transparent about the impact of their products, which prevents parents and young people from making informed decisions and researchers from identifying problems and solutions.[13]

18. President Biden has since echoed the Surgeon General's comments. In both his 2022 and 2023 State of the Union Addresses, the President urged the nation to "hold social media platforms accountable for the national experiment they're conducting on our children for profit."[14] In a January 11, 2023, op-ed, President Biden amplified this point: "The risks Big Tech poses for ordinary Americans are clear. Big Tech companies collect huge amounts of data on the things we buy, on the websites we visit, on the places we go, and, most troubling of all, on our children."[15] The President observed that millions of children and adolescents struggle with "violence, trauma,

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[12] Press Release, U.S. Dep't of Health & Hum. Servs., *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic* (Dec. 7, 2021), https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html.

[13] U.S. Surgeon General's Advisory, *Protecting Youth Mental Health* (Dec. 7, 2021), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf.

[14] The White House, President Biden's State of the Union Address (Mar. 1, 2022), https://www.whitehouse.gov/state-of-the-union-2022/; *see also* The White House, *President Biden's State of the Union Address* (Feb. 7, 2023), https://www.whitehouse.gov/state-of-the-union-2023/.

[15] Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11, 2023), https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411.

and mental health" as a result of Defendants' conduct and platforms, and again stated that "[w]e must hold social-media companies accountable" for their role in this crisis.[16]

19. These statements by President Biden and the Surgeon General align with a substantial body of peer-reviewed scientific literature documenting the harmful impact of Defendants' conduct and platforms on children. This body of research confirms that Defendants' conduct and platforms cause addiction, compulsive use, anxiety, depression, eating disorders, body dysmorphia, self-harm, sexual exploitation, suicidal ideations, other serious diseases and injuries, and suicide itself. Overall rates of these disorders have increased dramatically because of widespread consumption of Defendants' platforms by children in the United States and around the world due to Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors.

20. In 2022, the American Federation of Teachers—one of the largest teachers' unions in the United States—joined the #MakeMarkListen campaign, referring to Meta CEO Mark Zuckerberg. Recognizing the harm of social media on students, the campaign is organizing activities to demand oversight and accountability at Meta on behalf of children, based on the substantial harms caused by Meta's social media platforms. AFT President Randi Weingarten stated, "We're raising a giant red flag on the impact of Meta on kids' lives and how its platforms exacerbate the anxiety that comes with navigating our complicated world at a young age."[17] While this particular effort was aimed at Meta, the behavior of all social media Defendants contributes to the harms raised by this group.

[16] *Id.*

[17] Press Release, *AFT Joint National Effort to Demand Corporate Governance Reforms at Meta* (May 17, 2022), at pp. 1-2. https://www.aft.org/press-release/aft-joins-national-effort-demand-corporate-governance-reforms-meta.

21. A recent study commissioned by several organizations, including groups representing teachers, parents, children, and psychologists, wrote, "[o]ur schools are in crisis."[18] As a direct result of the Defendants' successful promotion, distribution, and marketing of their addictive platforms to youth, there has been a "dramatic disruption in the teaching and learning ecosystems of all our nation's schools."[19] In addition, the rates of mental health issues among children have climbed steadily since 2010. By 2018, suicide was the second leading cause of death for youth.[20] As some of the country's largest providers of youth counseling, school districts have been forced to devote ever-increasing resources to mental health and learning support.

22. Compulsive social media use and addiction are negatively affecting student behavior in districts across the country. For example, Pinellas (Florida) County School Board Chairperson Laura Hine noted that, in her district, social media has resulted in "reduced attention spans, reduced cognitive development or delayed cognitive development, learning impacts, behavior, discipline, physical health, mental health, depression [and the] loss of life."[21] Tucson (Arizona) Unified School District has experienced students becoming violent and damaging classrooms when a teacher tries to take a student's phone away, which the District attributes to students' social media addiction. Additionally, an English teacher in Rutherford County, North Carolina, reports that "[s]ocial media has crippled my students when it comes to interacting with one another in person. Their very ability to communicate is deteriorating."[22]

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[18] *Likes vs. Learning: The Real Cost of Social Media for Schools*, American Federation of Teachers et al., (July 2023), https://www.aft.org/sites/default/files/media/documents/2023/LikesVSLearning_Report.pdf\..

[19] *Id.*

[20] CDC, *Deaths: Leading Causes for 2018*, 70(4) National Vital Statistics Reports at 10 (May 17, 2021), https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-04-508.pdf..

[21] VerHelst, Megan, *Pinellas Schools to Sue Social Media Giants Over Mental Healht Crisis.* https://patch.com/florida/stpete/pinellas-schools-sue-social-media-giants-over-mental-health-crisis.

[22] *Social Media's Impact on Students' Mental Health Comes Into Focus* at 2, NEA Today (Sept. 27, 2018)

23. The youth mental health crisis, fueled by social media, also has a serious negative impact on school districts' ability to hire and retain qualified teachers. For example, Palm Beach County (Florida) Schools and the Tucson Unified School District have experienced a decline in teacher morale due to the extreme disruption that student social media use has caused in the classroom, which makes the teachers' job much more difficult. In Wichita, Kansas, teachers have repeatedly appealed to their district for help combatting students' social media use, even raising the issue during contract negotiations.[23] Other districts nationwide have dealt with similar problems due to Defendants' conduct in creating youth social media addiction.

24. School districts nationwide have made substantial expenditures to combat the drain on learning caused by students' social media compulsive use and addiction. For example, Clark County (Nevada) School District has spent millions of dollars on support for students who are lacking in proficiency, including purchasing "Tier 2" educational materials to help students get back on pace with their peers. The district has seen a higher percentage of students fall behind as student use of social media increases. Clark County schools have also revised school policies to combat problematic social media use. Districts nationwide have made similar expenditures on personnel and learning materials to combat social media addiction.

25. Many districts nationwide have purchased or are considering purchasing Faraday bags, which block cell phone service so that students cannot access social media platforms during school hours. For example, several schools in the Philadelphia School District have purchased Faraday bags, and the district is considering buying them for all schools at a cost of approximately $5 million. Penn Hills School District near Pittsburgh, Pennsylvania, has purchased the bags for every student. Virginia Beach School District wanted to buy Faraday bags for all its students, but it determined that it did not have the funds necessary to purchase.

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https://www.nea.org/nea-today/all-news-articles/social-medias-impact-students-mental-health-comes-focus..

[23] Donna St. George, *Students can't get off their phones. Schools have had enough*. Washington Post (May 9, 2023), https://www.washingtonpost.com/education/2023/05/09/school-cellphone-ban-yondr/.

26. The youth mental health crisis fueled by social media addiction has also had a profound effect on county and municipal governments. For instance, Plaintiff Montgomery County (Pennsylvania) funds and operates numerous services to address youth mental health issues and six local community behavior centers. The funding for these services is unable to keep up with the demand, which the social media-induced youth mental health crisis has greatly exacerbated. Many local governments also assist with school funding. For instance, Plaintiff Providence, Rhode Island, budgeted more than $134 million for public schools in 2022.

27. Defendants knew or should have known about the risks of such addiction, and they could have changed their conduct and their platforms to avoid the harm. They could have warned the public and Plaintiffs about the danger. Instead, Defendants placed growth first.

28. Defendants could have worked with the Local Government and School District Plaintiffs to warn, educate, and protect youth from the risks of their platforms. They could have provided warnings about the danger to prevent the foreseeable injuries they have caused to the Local Government and School District Plaintiffs. Instead, they prioritized their growth and financial gain over the drain their actions would cause on the Local Government and School District Plaintiffs' budgets and resources.

29. Defendants' wrongful conduct has caused or contributed to a nuisance within Local Government and School District Plaintiffs' schools and communities. Compulsive social media use and addiction are widespread within the Local Government and School District Plaintiffs' communities, including in their respective school districts, counties, and municipalities, resulting in a myriad of harms to Plaintiffs. Those harms are continuing today. Plaintiffs' harms are different in kind from those suffered by the general public at large.

30. Defendants were also negligent. They breached their duty to the Local Government and School District Plaintiffs by purposefully addicting children to their platforms, thereby foreseeably causing harm to Local Government and School District Plaintiffs around the country who are the first responders forced to address the serious consequences of Defendants' actions given their mission (and obligation) to provide an adequate education, public facilities, mental health

services, counseling, and other social and disciplinary services.

31. As described in more detail above and below, Defendants' wrongful conduct includes, but is not limited to: (a) designing, developing, producing, operating, promoting, distributing, and marketing platforms that disrupted and otherwise harmed Plaintiffs' operations, schools, communities, students, and residents; (b) failing to provide adequate warnings about serious and reasonably foreseeable health risks from use of the platforms; (c) failing to utilize reasonable care in designing, developing, producing, operating, promoting, distributing, and marketing their platforms; and (d) as to Meta, at least, engaging in the deliberate concealment, misrepresentation, and obstruction of public awareness of serious health risks to users of its platforms.

32. As described in more detail above and below, the harms caused by Defendants' wrongful conduct include, but are not limited to, expending, diverting, and increasing human and financial resources to prevent social media use in school, such as equipment to disable phones; spending, diverting, and increasing human and financial resources to hire counselors and other professionals to address compulsive social media use and addiction, and its negative impact on youth; the consistent and pervasive disruption to the learning process caused by social media use in schools; expending, diverting, and increasing human and financial resources to address property damage on school and municipal property, caused by compulsive social media use and addiction; and the need for additional government personnel and expending, diverting, and increasing human and financial resources to address the youth mental health crisis caused by Defendants' conduct and platforms.

33. Defendants should be held to account for the harms their conduct has inflicted on America's youth, our country's educational system, and our local governments and communities. Currently, the Local Government and School District Plaintiffs across the nation are left footing the bill for assisting America's struggling youth while Defendants count their profits.

II. JURISDICTION AND VENUE

34. This Court has subject-matter jurisdiction over various constituent cases in this multidistrict litigation pursuant to 28 U.S.C. § 1332(a) because Plaintiffs and Defendants in such

cases are residents of different states, and the amount in controversy exceeds $75,000.

35. This Court has personal jurisdiction over Defendants because they are incorporated in and have their principal places of business in California, and because they have contacts with California that are so continuous and systematic that they are essentially at home in this state. Meta, Google, and ByteDance, Inc. maintain their principal places of business within this District. Snap and TikTok Inc. maintain their headquarters in this State. All Defendants regularly conduct and solicit business in California, provide their platforms by or to persons here, and derive substantial revenue from the same. All Defendants affirmatively and extensively engage with a significant percentage of this State's residents through messages, notifications, recommendations, and other communications.

36. This Court also has personal jurisdiction over Defendants because they committed the acts complained of herein in this State and District and, in some cases, caused injury to persons located in this State and District.

37. Venue is proper in this multidistrict litigation for one or more of the following reasons: (1) at least one Defendant is headquartered and subject to personal jurisdiction in this District and all Defendants are residents of this State; (2) a substantial part of the events and omissions giving rise to Plaintiffs' causes of action occurred in this District; (3) venue is proper in the transferor court in each constituent case; and/or (4) venue is proper in this District for pretrial purposes pursuant to 28 U.S.C. § 1407 and the October 6, 2022 Transfer Order of the Judicial Panel on Multidistrict Litigation.

38. Declaratory relief is proper under 28 U.S.C. §§ 2201 and 2202.

III. PARTIES

A. Plaintiffs

39. This Complaint is filed on behalf of Plaintiff school districts, counties, district attorneys and municipalities who file a *Short Form Complaint* alleging that they have suffered harm due to Defendants' conduct alleged herein. By operation of an anticipated implementation order by the Court, all allegations pled in this Complaint are deemed pled in any *Short Form Complaint* as

to the Defendants identified therein.

B. Meta Defendants

40. Defendant Meta Platforms, Inc. ("Meta") is a multinational technology conglomerate, having its principal place of business in Menlo Park, California. Meta designs, develops, owns, operates, and markets social media platforms, including Facebook and Instagram, which are available to minors throughout the United States.[24] Meta Platforms was incorporated in Delaware on July 29, 2004, as "TheFacebook, Inc." On September 20, 2005, the company changed its name to "Facebook, Inc." On October 28, 2021, the company assumed its current designation. While Plaintiffs have attempted to identify the specific Meta Platforms subsidiary(s) that committed each of the acts alleged in this Complaint, Plaintiffs were not always able to do so, in large part due to ambiguities in Meta Platforms' and its subsidiaries' own documents, public representations, and lack of public information. However, upon information and belief, Meta Platforms oversees the operations of its various platforms and subsidiaries, some of which have been identified and are listed below. For this reason, unless otherwise specified, the shorthand "Meta" contemplates the apparent control that Meta Platforms wields over its subsidiaries' overall operations and, therefore, further refers to its various subsidiaries and predecessors. To the extent this assumption is incorrect, the knowledge of which Meta Platforms subsidiary, current or former, is responsible for specific conduct is knowledge solely within Meta's possession, the details of which Plaintiffs should be permitted to elucidate during the discovery phase.

41. Metas' subsidiaries include but may not be limited to: Facebook Holdings, LLC; Facebook Operations, LLC; Instagram, LLC; and a dozen other entities whose identity or relevance is presently unclear.

42. Defendant Facebook Holdings, LLC was incorporated in Delaware on March 11, 2020, and is a wholly owned subsidiary of Meta Platforms. Facebook Holdings is primarily a

[24] These products include Facebook (its self-titled app, Messenger, Messenger Kids, Marketplace, Workplace, etc.), Instagram (and its self-titled app), and a line of electronic virtual reality devices called Oculus Quest (soon to be renamed "Meta Quest").

holding company for entities involved in Meta Platforms' supporting and international endeavors, and its principal place of business is in Menlo Park, California.

43. Defendant Facebook Operations, LLC was incorporated in Delaware on January 8, 2012, and is a wholly owned subsidiary of Meta Platforms. Facebook Operations is likely a managing entity for Meta Platforms' other subsidiaries, and its principal place of business is in Menlo Park, California.

44. Defendant Meta Payments Inc. ("Meta Payments") is a wholly owned subsidiary of Meta Platforms, Inc. Meta Payments processes and manages payments made through Meta. Meta Payments principal place of business is in Menlo Park, California. Meta Payments was incorporated in Florida on December 10, 2010, as Facebook Payments Inc. In July 2022, the entity's name was amended to Meta Payments Inc.

45. Defendant Siculus, Inc. ("Siculus") was incorporated in Delaware on October 19, 2011. Siculus is a wholly owned subsidiary of Meta. Siculus constructs data facilities that support Meta platforms. Siculus's principal place of business is in Menlo Park, California.

46. Defendant Instagram, LLC was founded by Kevin Systrom and Mike Krieger in October 2010. In April 2012, Meta Platforms purchased the company for $1 billion (later statements from Meta Platforms have indicated the purchase price was closer to $2 billion). Meta Platforms reincorporated the company on April 7, 2012, in Delaware. Currently, the company's principal place of business is in Menlo Park, California. Instagram is a social media platform tailored for photo and video sharing.

C. Defendant Snap, Inc.

47. Defendant Snap, Inc. is a Delaware corporation with its principal place of business in Santa Monica, California. Snap designs, develops, owns, operates, and markets the Snapchat social media platform, an application that is widely marketed by Snap and available to minors throughout the United States. Snapchat is a social media platform for engaging in text, picture, and video communication, as well as other features of Snapchat's own design. Snapchat was founded in 2011, by three Stanford college students: Reggie Brown, Evan Spiegel, and Bobby Murphy.

D. TikTok Defendants

48. Defendant TikTok Inc. is a California corporation with its principal place of business in Culver City, California. TikTok designs, owns, and operates the TikTok social media platform, an application that is widely marketed by TikTok and available to minors throughout the United States. TikTok is known as a video-sharing application, where users can create, share, and view short video clips.

49. Defendant ByteDance Inc. is a Delaware corporation with its principal place of business and headquarters at 250 Bryant St, Mountain View, California. ByteDance design, owns, and/or operates TikTok, and designs, develops, owns, operates, and/or markets the TikTok social media platform, an application that is widely marketed by TikTok and available to users throughout the United States.

50. Defendant TikTok Inc. is a for-profit entity incorporated in the State of California, which operates a social media application and platform known as "TikTok." TikTok Inc. is headquartered at 5800 Bristol Pkwy, Culver City, California. TikTok Inc. has a valuation of at least $50-75 billion. TikTok Inc. made nearly $4 billion in revenue in 2021 and an estimated $10-12 billion in 2022.

51. Defendant TikTok Ltd. wholly owns its subsidiary Defendant TikTok LLC which is, and at all relevant times was, a Delaware limited liability company.

52. Defendant ByteDance Ltd. is a multinational internet technology holding company and is the parent company of TikTok Inc., TikTok Ltd., and ByteDance Inc. ByteDance Ltd. is headquartered in Room 503 5F, Building 2, 43 North Third Ring West Road, Beijing, 100086 China and registered in the Cayman Islands at C/O Vistra (Cayman) Limited, P.O. Box 31119, Grand Pavilion, Hibiscus Way, 802 West Bay Road, Grand Cayman, KY1 — 1205. ByteDance Ltd. is a Chinese corporation with its principal place of business in Beijing, China. ByteDance Ltd. designs, owns, and/or operates TikTok, and designs, owns, and/or operates the TikTok social media platform, an application that is widely marketed by TikTok and available to minors throughout the United States.

53. Defendants TikTok Inc., ByteDance Inc., TikTok Ltd and ByteDance Ltd. are collectively referred to as "ByteDance."

E. YouTube Defendants

54. Defendant Google LLC ("Google") is a limited liability company organized under the laws of the state of Delaware, and its principal place of business is in Mountain View, California. Google is a wholly owned subsidiary of XXVI Holdings Inc., and the managing member of YouTube, LLC. Google transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, Google has advertised, marketed, and distributed its YouTube video sharing platform to minors throughout the United States. At all times material to this Complaint, acting alone or in concert with YouTube, LLC, Google formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint. Further, upon information and belief, Google oversees the operations of its various platforms and subsidiaries including YouTube LLC.

55. Defendant YouTube LLC ("YouTube") is a limited liability company organized under the laws of the state of Delaware, and its principal place of business is in San Bruno, California. YouTube is a wholly-owned subsidiary of Google. YouTube transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with defendant Google, YouTube has designed, developed, advertised, marketed, operated, and distributed its YouTube social media platform to minors throughout the United States. At all times material to this Complaint, acting alone or in concert with Google, YouTube formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

IV. FACTUAL ALLEGATIONS

A. GENERAL FACTUAL ALLEGATIONS APPLICABLE TO ALL DEFENDANTS

1. Defendants have targeted school-aged children as a core market.

56. Defendants' platforms prey on the time and attention of children who use them

compulsively. Their powerfully addictive nature is intentional; each Defendant has designed, developed, produced, operated, promoted, distributed, and marketed its platforms not only to maximize the number of child users but to monopolize as much of their attention as possible.

57. Capturing young users is central to Defendants' business model. Because children use Defendants' platforms more than adults, they see more ads and, as a result, generate more ad revenue for Defendants. Young users also generate a trove of data about their preferences, habits, and behaviors. Information about their users is Defendants' most valuable commodity. Defendants mine and commodify that data, selling to advertisers the ability to reach incredibly narrow tranches of the population, including children. Each Defendant placed its platforms into the stream of commerce and generated revenues through the distribution of those platforms at the expense of the Local Government and School District Plaintiffs. This exploitation of children has become central to Defendants' profitability.

58. For example, an internal presentation titled "2017 Teens Strategic Focus" explicitly stated Meta's "goal: retain MAP [Monthly Active People] and DAP [Daily Active People], [and] grow teen time spent" by "rebuild[ing] social Facebook to work better for teens, including entertainment."[25] Similarly, an internal Meta planning document from November 2018 stated: "Winning schools is the way to win with teens because an individual teen's engagement is highly correlated with school MAP [Monthly Active People] penetration. Solving jobs related to school and building school network effects is a way to increase overall teen usage."[26]

59. Defendants have been staggeringly successful in their efforts to attract young users to their platforms. In 2021, 32% of 7- to 9-year-olds,[27] 49% of 10- to 12-year-olds,[28] and 90% of 13-

[25] META3047MDL-003-00172024.

[26] META3047MDL-003-00017809.

[27] *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child's Hosp. Univ. Mich. Health (Oct. 18, 2021), https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

[28] *Id.*

to 17-year-olds in the United States used social media.[29] A majority of U.S. teens use Instagram, TikTok, Snapchat, and/or YouTube. Thirty-two percent say they "wouldn't want to live without" YouTube, while 20% said the same about Snapchat, and 13% said the same about both TikTok and Instagram.[30]

60. U.S. teenagers who use Defendants' platforms are likely to use them every day. Sixty-two percent of U.S. children ages 13-18 use social media daily.[31] And daily use often means constant use. About one-in-five U.S. teens visit or use YouTube "almost constantly," while about one-in-six report comparable usage of Instagram.[32] Nearly half of U.S. teens use TikTok at least "several times a day."[33] TikTok's internal data shows that children aged 13-17 check the platform nearly 17 times a day and spend, on average, almost two hours a day on TikTok, out pacing all older age groups. Many children are spending four or more hours on TikTok every day.[34] In one study, U.S. teenage users reported checking Snapchat thirty times a day on average.[35]

61. Many teenagers know they are addicted to Defendants' platforms: 36% admit they spend too much time on social media.[36] Yet they cannot stop. Of the teens who use at least one social media platform "almost constantly," 71% say quitting would be hard. Nearly one-third of this

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[29] *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018), https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx; *see also* Victoria Rideout et al., *The Common Sense Census: Media Use by Tweens and Teens*, 2021 at 5, Common Sense Media (2022), https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

[30] *Id.* at 31.

[31] *Id.*

[32] Emily Vogels et al., Teens, *Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology- 2022/.

[33] *Id.*

[34] Complaint and Jury Demand ("UT AG Compl.") at 3, para. 5, *Division of Consumer Protection of the State of Utah v. TikTok Inc.* (ECF No. 495-5).

[35] *Id.*

[36] *Id.*

population—and nearly one-in-five of all teens—say quitting would be "very hard."[37]

62. Notably, the more teens use Defendants' platforms, the harder it is to quit. Teens who say they spend too much time on social media are almost twice as likely to say that giving up social media would be hard, compared to teens who see their social media usage as about right.[38]

63. Despite using social media frequently, most young people don't particularly enjoy it. In 2021, only 27% of boys and 42% of girls ages 8-18 reported liking social media "a lot."[39] Moreover, one survey found that young people think social media is the main reason youth mental health is getting worse.[40] About twice as many of the surveyed youth believed that social media is the main reason for declining mental health than the next likely cause, and over seven times more believed it to be the main cause rather than drugs and alcohol.[41]

64. The most recent data shows these trends persist. According to a 2023 report, 45 percent of teen girls who use TikTok say they feel addicted to it or use it more than intended at least weekly.[42] Similarly, 37 percent of teen girls said they felt addicted to Snapchat, 34 percent said they felt addicted to YouTube, and 33 percent said they felt addicted to Instagram.[43] Notably, teenage girls reported higher rates of feeling addicted to these social media platforms than messaging

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[37] *Id.*

[38] *Id.*

[39] Victoria Rideout et al., *Common Sense Census: Media use by tweens and teens, 2021* at 34, Common Sense Media (2022), https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

[40] *Headspace National youth mental health survey 2018*, Nat'l Youth Mental Health Found. (2018), https://headspace.org.au/assets/headspace-National-Youth-Mental-Health-Survey-2018.pdf.

[41] *Id.*

[42] Jacqueline Nesi et al, *Teens and Mental Health: How Girls Really Feel about Social Media* at 6, Common Sense Media (2023), https://www.commonsensemedia.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_web_final_2.pdf.

[43] *Id.*

platforms.[44]

65. Defendants have also deliberately designed their platforms to encourage the compulsive use of these platforms during the school day. Indeed, a recent study performed by Common Sense Media and the C.S. Mott Children's Hospital confirms the ubiquity and intensity of notifications in a young person's life. The research found that young users "received a median of 237 notifications" in a "typical day," and that "[n]otification frequency varied widely, with maximums of over 4,500 delivered and over 1,200 seen and" [n]early a quarter of those notifications arrived during school hours.[45]

66. When youth are able to stop or limit their social media use, it is often because of the negative impacts they experience using social media. In one sample, 38 percent of adolescent social media users reported that "they had ever stopped using a platform or limited how much they use it because they felt it had a negative impact on them."[46] Indeed, many teenage girls reported feeling they were spending too much time on social media or that it was getting in the way of other activities; 43 percent of teenage girls described these feelings in relation to YouTube, 23 percent said the same of TikTok, 23 percent said the same of Instagram, and 10 percent said the same of Snapchat.[47]

67. Defendants have encouraged the use of their platforms as educational tools and teaching aides both in school and for homework but have failed to adequately warn educators, parents, students, and Plaintiffs of the known risks and harms of using their platforms.

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[44] *Id.*

[45] https://www.commonsensemedia.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf.

[46] Jacqueline Nesi et al, *Teens and Mental Health: How Girls Really Feel about Social Media* at 27, Common Sense Media (2023), https://www.commonsensemedia.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_web_final_2.pdf.

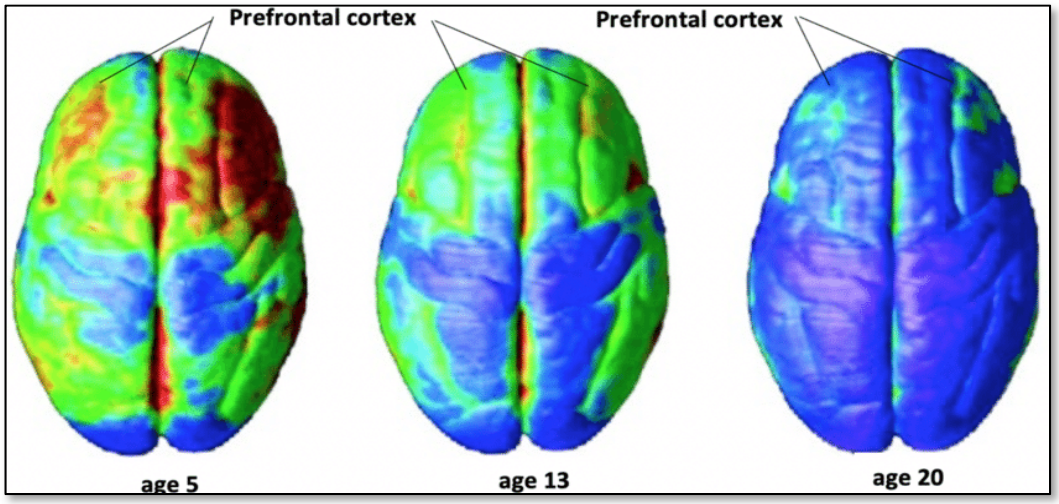
[47] *Id.*

2. Children are uniquely susceptible to harm from Defendants' platforms.

68. To hook young users, Defendants rely on psychologically manipulative design choices to which children are uniquely susceptible.

69. The frontal lobes of the brain—particularly the prefrontal cortex—control higher-order cognitive functions. This region of the brain is central to planning and executive decision-making, including the evaluation of future consequences and the weighing of risk and reward. It also helps inhibit impulsive actions and "regulate emotional responses to social rewards."[48]

70. Children and adolescents are especially vulnerable to developing harmful behaviors because their prefrontal cortex is not fully developed.[49] Indeed, it is one of the last regions of the brain to mature.[50, 51] In the images below, the blue color depicts brain development.[52]



[48] Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), https://www.apa.org/news/apa/2022/social-media-children-teenshttps://www.apa.org/news/apa/2022/social-media-children-teens.

[49] Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: A moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC Psych. 10, 279 (Nov. 28, 2022), .https://doi.org/10.1186/s40359-022-00990-7.

[50] *Id.*

[51] Fulton Crews et al., *Adolescent cortical development: A critical period of vulnerability for addiction*, 86 Pharm., Biochem. and Behav. 189-199 (2007), https://doi.org/10.1016/j.pbb.2006.12.001.

[52] Heiner Boettger, & Deborah Koeltezsch, *The fear factor: Xenoglossophobia or how to overcome*

71. Because the prefrontal cortex develops later than other areas of the brain, children and adolescents, as compared with adults, have less impulse control and less ability to evaluate risks, regulate emotions, and regulate their responses to social rewards.

72. Social rewards deliver a rush of dopamine and oxytocin, sometimes called the "happy hormones," to the ventral striatum.[53] Dopamine is a neurotransmitter that is central to the brain's reward system.[54] While the same hormones are released in youth and adults, there are two key differences. As Professor Mitch Prinstein, Chief Science Officer of the American Psychological Association, explained: "First, adults tend to have a fixed sense of self that relies less on feedback from peers. Second, adults have a more mature prefrontal cortex, an area that can help regulate emotional responses to social rewards."[55]

73. Although the decision-making region of the brain is still not fully developed, regions such as the ventral striatum, which are involved in the reward pathway and closely tied to social media activity, begin to develop during adolescence.[56]

74. Between the ages of 10 and 12, dopamine receptors multiply in the ventral striatum, which makes social rewards—like compliments or laughter from a friend—more pleasant, and adolescents become more sensitive to attention from others.[57] Adolescents are at a stage where their personalities and identities are forming, much of which "is now reliant on social media."[58]

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the anxiety of speaking foreign languages, 4, Training Language and Culture, 43-55 (June 2020), https://www.researchgate.net/figure/Development-of-the-cortex-functions-The-PFC_fig1_342501707.

[53] Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), https://www.apa.org/news/apa/2022/social-media-children-teens.

[54] *Id.*

[55] *Id.*

[56] *Id.*

[57] *Id.*

[58] Betul Keles et al., *A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents*, 25(1) Int'l J. Adolescence & Youth 79-93 (2019), https://www.tandfonline.com/doi/full/10.1080/02673843.2019.1590851.).

75. During development, the brain is exposed to stimuli (e.g., Instagram) that becomes associated with a reward (e.g., Likes) and a release of dopamine throughout the reward pathway. The feeling derived during the reward experience drives an individual to seek out the stimulus again, and the association between stimulus and reward grows stronger with repetitive activation.[59] Repeated spikes of dopamine over time may cause "neuroadaptation," where the brain adapts to the increased dopamine levels caused by external stimuli by downregulating its production of and sensitivity to dopamine.[60] As a result, the individual develops tolerance, and the brain requires increasingly more of a stimulus to experience the same feeling of reward.

76. Imaging studies show that during a period of craving, there are also decreases in frontal cortex activity and executive functioning, leading to impaired "decision making, self-regulation, inhibitory control, and working memory."[61]

77. As New York University professor and social psychologist Adam Alter has explained, features such as "Likes" give users a dopamine hit similar to drugs and alcohol: "The minute you take a drug, drink alcohol, smoke a cigarette . . . when you get a like on social media, all of those experiences produce dopamine, which is a chemical that's associated with pleasure. When someone likes an Instagram post . . . it's a little bit like taking a drug. As far as your brain is concerned, it's a very similar experience."[62]

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[59] Bryon Adinoff, *Neurobiologic processes in drug reward and addiction*, 12(6) Harv Rev Psychiatry 305-20 (2004), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1920543/https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1920543/.

[60] George Koob, & Nora Volkow. *Neurobiology of addiction: A neurocircuitry analysis*, 3(8) Lancet Psychiatry 760-73 (Aug. 2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf.

[61] *Id.*

[62] Eames Yates, *What happens to your brain when you get a like on Instagram*, Business Insider (Mar. 25, 2017), https://www.businessinsider.com/what-happens-to-your-brain-like-instagram-dopamine-2017-3; *see also* Sören Krach et al., *The rewarding nature of social interactions*, 4(22) Frontiers in Behav. Neuro. (May 28, 2010), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2889690/pdf/fnbeh-04-00022.pdf; Julian Morgans, *The Secret Ways Social Media Is Built for Addiction*, Vice (May 17, 2017),

78. Notably, once the brain has learned to make this association, dopaminergic neurons "shift their . . . activation from the time of reward delivery to the time of presentation of [a] predictive cue."[63] In other words, the anticipation of a reward can itself trigger a dopamine rush.

79. Conversely, if the stimulus is withheld, feelings of fatigue and anxiety or depression may be experienced, along with decreased sensitivity to the stimulant, which is associated with the withdrawal component of addiction.[64] Youth are more susceptible than adults to feelings of withdrawal when a dopamine hit wears off. Depending on the intensity, delivery, and timing of the stimulus, and the severity of its withdrawal, these feelings can include anxiety, dysphoria, and irritability.[65] Children and adolescents also are more likely to engage in compulsive behaviors to avoid these symptoms, due to their limited capacity for self-regulation, relative lack of impulse control, and struggle to delay gratification. Together, this means that children and adolescents are uniquely vulnerable and easy targets for the reward-based systems that Defendants build into their social media platforms.

80. A recent article, coauthored by former Google CEO Eric Schmidt and social psychologist Jonathan Haidt, warns that "the greatest damage from social media seems to occur during the rapid brain rewiring of early puberty, around ages 11 to 13 for girls and slightly later for

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https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addictionhttps://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction.

[63] Luisa Speranza et al., *Dopamine: The Neuromodulator of Long-Term Synaptic Plasticity, Reward and Movement Control,* 10 Cells 735 (Mar. 16, 2021), https://pubmed.ncbi.nlm.nih.gov/33810328/.

[64] Substance Abuse and Mental Health Services Administration (US); Office of the Surgeon General (US). Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington (DC): US Department of Health and Human Services; 2016 Nov., Chapter 1, Introduction and Overview of the Report, https://www.ncbi.nlm.nih.gov/books/NBK424860/?report=reader

[65] George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8) Lancet Psychiatry 760-773 (August 2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf.

boys."[66] Schmidt and Haidt urged action, writing that "we must protect children from predation and addiction most vigorously during this time, and we must hold companies responsible for recruiting or even just admitting underage users . . . ." As they point out, "as long as children say that they are 13, the platforms let them open accounts, which is why so many children are heavy users of Instagram, Snapchat, and TikTok by age 10 or 11."[67]

81. Studies indicate that social rewards such as reputation, maternal and romantic love, positive emotional expressions, and the stimuli of perceived beautiful faces are processed along the same neural reward network as non-social rewards and drug addiction.[68] Dopamine receptors were found reduced in the striatum (central component of the reward system) of the brain in individuals with Internet addiction.[69] Like other addicting products, Defendants' platforms hook their users by disrupting their brains' reward circuitry.

82. When the release of dopamine in young brains is manipulated by Defendants' platforms, it interferes with the brain's development and can have long-term impacts on an individual's memory, affective processing, reasoning, planning, attention, inhibitory control, and risk-reward calibration.

83. "Everyone innately responds to social approval . . . but some demographics, in

[66] Jonathan Haidt and Eric Schmidt, *AI is about to make social media (much) more toxic*, The Atlantic (May 5, 2023), https://www.theatlantic.com/technology/archive/2023/05/generative-ai-social-media-integration-dangers-disinformation-addiction/673940/.

[67] *AI is About to Make Social Media (Much) More Toxic*, The Atlantic (May 5, 2023), https://www.theatlantic.com/technology/archive/2023/05/generative-ai-social-media-integration-dangers-disinformation-addiction/673940/..

[68] Sören Krach, et al., *The rewarding nature of social interactions*, 4(22) Frontiers in Behav. Neuro., (May 28, 2010), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2889690/pdf/fnbeh-04-00022.pdf.

[69] Sang Hee Kim, et al., *Reduced striatal dopamine D2 receptors in people with Internet addiction*, 22 NeuroReport 407-11 (June 11, 2011), https://pubmed.ncbi.nlm.nih.gov/21499141/.

particular teenagers, are more vulnerable to it than others."[70] Given their limited capacity to self-regulate and their vulnerability to peer pressure, children (including teens) are at greater risk of developing a mental disorder from use of Defendants' platforms.[71]

84. This can lead to a vicious cycle. Repeated spikes of dopamine over time may cause a child to build up a tolerance for the stimulus. In this process of "neuroadaptation," the production of dopamine and the sensitivity of dopamine receptors are both reduced.[72] As a consequence, the child requires more and more of the stimulus to feel the same reward. Worse, this cycle can cause decreases in activity in the prefrontal cortex, leading to further impairments of decision-making and executive functioning.[73]

85. As described further below, each Defendant deliberately designed, developed, engineered, and implemented dangerous features in their platforms that limit the ability for children and their parents to control social media use and present social-reward and other stimuli in a manner that has caused youth in Plaintiffs' schools and communities to compulsively seek out those stimuli, develop negative symptoms when they are withdrawn, and exhibit reduced impulse control and emotional regulation.

86. Children find it particularly difficult to exercise the self-control required to regulate their use of Defendants' platforms, given the stimuli and rewards embedded in those platforms, and as a foreseeable and probable consequence of Defendants' design choices tend to engage in

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[70] Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016), https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html.

[71] Betul Keles et al., *A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents*, 25(1) Int'l J. Adolescence & Youth 79-93 (2019), https://www.tandfonline.com/doi/full/10.1080/02673843.2019.1590851.

[72] George Koob, and Nora Volkow. *Neurobiology of addiction: a neurocircuitry analysis*, 3 (8)Lancet Psychiatry 760-773 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6135092/pdf/nihms-985499.pdf..

[73] *Id.*

addictive and compulsive use.[74] Defendants engaged in this conduct even though they knew or should have known that their design choices substantially harmed the youth in Plaintiffs' schools and communities, and that they would lead to Plaintiffs' increased expenditures.

87. Adding to the harm caused to children and teens, Defendants' social media platforms generate never-ending and heightened social comparison. The need to compare oneself to other individuals is a hard-wired characteristic of being human and is biologically powerful. But Defendants' platforms create an unnatural environment of constant social comparison due to filters and other features that Defendants have designed and developed. This is by design: social comparison is yet another aspect of human psychology that Defendants intentionally manipulate through the design of their platforms and features to maximize "user engagement" and, in turn, profits. For children and teens, this has significant public health consequences. As the U.S. Surgeon General has warned, "[s]ocial comparison driven by social media is associated with body dissatisfaction, disordered eating, and depressive symptoms."[75] This also has significant consequences for the Local Government and School District Plaintiffs in the form of increased expenditures of financial and human resources to combat the youth mental health crisis.

88. The health consequences of Defendants' conduct are no surprise. Since the early 2000s, studies have shown that frequent upward social comparison results in lower self-esteem and reduced overall mental health.[76]

89. Social media-induced social comparison often results in a discrepancy between the idealized self and the real self, evoking a sense of depression, deprivation, and distress. This is further exacerbated by Defendants' use of physical-augmentation technology, which allows users

[74] Fulton Crews et al., *Adolescent cortical development: A critical period of vulnerability for addiction*, 86 Pharmacology, Biochemistry and Behavior 189-99 (Feb. 2007), https://www.sciencedirect.com/science/article/pii/S009130570600400X.

[75] United States Surgeon General advisory "*Social Media and Youth Mental Health*" May 2023.

[76] Claire Midgley, *When Every Day is a High School Reunion: Social Media Comparisons and Self-Esteem* (2020), https://www.researchgate.net/publication/342490065_When_Every_Day_is_a_High_School_Reunion_Social_Media_Comparisons_and_Self-Esteem.

to utilize photo and video filters to remove blemishes, make their faces appear thinner, and lighten skin tone—all to make themselves appear more "attractive." Appearance-altering filters are widely used across Defendants' platforms. Especially in combination with the platforms' general-feed algorithm, these filters cause users to make false comparisons between their real-life appearances and the appearances in the feed. These features also cause users to make negative comparisons between their appearance with a filter and without one. As alleged below, whistleblower documents show that Meta has long been aware of the harm these features can cause.

90. Put more succinctly, Defendants' platforms are highly addictive because Defendants intended them to be so.

3. Defendants' automated recommendation systems fuel addictive use by children.

91. Key to Defendants' implementation of the psychological principles described above is their use of content-agnostic automated recommender systems, which measure and exploit data about every aspect of a users' interaction with their platforms—from click patterns to location to social networks—to maximize the amount of time users spend on Defendants' platforms. By weaponizing user interaction to fuel Defendants' attention farming, these systems driving compulsive use by children.

92. Crucially, these aspects of Defendants' recommended systems do not consider the substantive information conveyed by the posts, and Plaintiffs do not challenge the portions of Defendants' algorithms and recommendation systems that do consider the informational content of specific posts.

93. Meta, for example, explains that "[w]e combine predictions of different events using an arithmetic formula, called value model, to capture the prominence of different signals in terms of deciding whether the content is relevant. We use a weighted sum of predictions such as [w_like * P(Like) + w_save * P(Save) - w_negative_action * P(Negative Action)]. If, for instance, we think the importance of a person saving a post on Explore is higher than their liking a post, then the weight

for the save action should be higher."[77] At no point does this process examine the information conveyed by the content.

94. The following is a subset of the reams of content-agnostic user interaction data that Defendants collect—tracking users' actions without considering the substantive information that is the object of the interactions:

a. a user's demographics;

b. what posts a user clicks on;

c. how long a user reads or watches a post;

d. which posts a user hovers their mouse over—and for how long they do so;

e. which posts users don't engage with—i.e., which posts fail to draw attention or engagement;

f. what times of day users access the product;

g. physical location where users access the product;

h. devices connected to the Wi-Fi networks a user connects through;

i. length of a video;

j. time spent viewing a video;

k. users' connections to other users;

l. the number of users who viewed a particular post;

m. the number of "shares";

n. the number of "saves"; and,

o. the number "likes."

95. Armed with this content-agnostic user interaction data, Defendants' machine learning systems maximize user attention to their platforms, untethered from any consideration of what that

[77] *Powered by AI: Instagram's Explore recommender system*, Meta (Nov. 25, 2019), https://ai.meta.com/blog/powered-by-ai-instagrams-explore-recommender-system/.

attention is being directed to.

96. These systems work not on the basis of mechanical, constant rules, but through complex, dynamic mathematical systems that examine data about users' interactions with pieces of content—but not the content itself—to predict how the content is likely to affect a specific users' engagement by showing them only information that is likely to achieve the endpoint that Defendants set: maximizing the time users spend on the platform.

97. To Defendants' recommendation systems, user posts are data points on a graph, nodes in a vast web of meticulously cataloged interactions rather than messages being shared.

98. Defendants' recommendation systems thus resemble sailors who know land is approaching when they see shore birds, or astronomers measuring the light emitted by distant stars. The sailor does not see the land, the astronomer does not see the star, and the algorithm does not consider the actual information conveyed in a post. Rather, each considers associated data—birds, light, and "demographics"—to draw a conclusion: land is near, the age of a star, and the probability that a user is, or is not, maximally engaged on the platform.

99. Indeed, so divorced is the actual information being shared on Defendants' platforms from Defendants' unceasing mission to hold users' attention that, unlike a newspaper editor who can check every story before it goes to print, Defendants must run *ex post facto* observational studies to have even a basic understanding of the substance of the content—rather than the user interaction statistics that are the north star of both their algorithms and their business strategies more generally—being disseminated on their platforms.

100. Perversely, Defendants' paramount focus on holding users' attention above all else frequently results in users being *denied* the content they are actually interested in.

101. To condition users to keep scrolling, swiping, and refreshing, Defendants' platforms will hold back rewards (content a user actually wants to find) that might result in them closing out the platform once viewed.

102. The fact that Defendants' content-agnostic recommendation algorithms are neither designed to curate the actual information that is disseminated, nor to provide users information that

they want, is unsurprising given the truth of their business models. Defendants are not in the business of fostering human connections or helping people further their knowledge. Defendants sell ads. For them to profit, it doesn't matter what their users are looking at, only that they are looking—offering up a captive audience that can be carved up and sold to whichever advertiser is the highest bidder.

4. Defendants designed, developed, produced, operated, promoted, distributed, and marketed their platforms to attract, capture, and addict youth, with minimal parental oversight.

103. Defendants' products share a set of core features that are engineered to induce compulsive use by young people.[78]

104. *First*, Defendants failed to provide features such as robust age verification, effective parental controls, and effective parental notifications. The lack of effective (and, in some cases legally-mandated) age-based controls harmed the Local Government and School District Plaintiffs by contributing to the social media addiction epidemic among the children in their school districts and communities, and by introducing or exponentially increasing the harm of other addictive design features and the corresponding cost of fighting the youth mental health crisis.

105. *Second*, Defendants' design features failed to reasonably protect child users by failing to place default limits on the length and frequency of user sessions; utilize opt-in restrictions as opposed to opt-out restrictions on the length and frequency of sessions; provide self-limiting tools; provide blocks to use at certain times of day for minor users such as during school hours; and provide a deactivation and deletion process free from unnecessary barriers.

106. *Third*, Defendants caused harm to minors by utilizing addictive design features that weaponized user data and preyed on adolescent minds such as endless scroll on users' feeds;

[78] *See* Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of Flattery*, Gizmodo (Aug. 16, 2022), https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419 ("Over the last decade, some of the most popular social media apps have blatantly ripped off features from some of the other most popular social media apps, in a tech version of Capture the Flag where the only losers are the users who are forced to persist through this cat- and-mouse game.").

algorithms that paired intermittent variable rewards (or "IVR") to user-specific data; strategically timing and clustering notifications to lure users back to Defendants' platforms; and otherwise sending psychologically manipulative notifications and communications to keep minors hooked.

107. *Fourth*, Defendants failed to protect children and help limit and prevent child sexual exploitation, sextortion, and distribution of known Child Sexual Assault Material ("CSAM") by failing to implement certain design features that prioritize children's safety. These features include: using the freely available and industry-proven child protection Application Programming Interface ("API") tools such as Project Arachnid Shield to help limit and prevent child sexual exploitation, sextortion, and distribution of known CSAM through their platforms; using reporting protocols to allow users or visitors to Defendants' platforms to report CSAM and adult predator accounts without the need to create or log in to the platforms prior to reporting; using the legal definition of CSAM under 18 U.S.C. § 2256(8) and related case law when scanning for CSAM using tools such as PhotoDNA and CSAI to prevent underreporting of known CSAM; prioritizing "tolerance" rather than "efficiency" and "distinctness" of the detection model when using scanning tools such as PhotoDNA and CSAI to prevent underreporting of known CSAM; implementing client-side scanning and hashing and/or secure enclaves in the direct messaging features of Meta's, Snap's, and ByteDance's platforms, to prevent underreporting of known CSAM; implementing proactive detection measures to scan for known CSAM within all Defendants' social media platforms and remove it; limiting or eliminating the use of geolocating for minors; and eliminating features that recommend minor accounts to adult strangers. These actions by Defendants have foreseeably led to individuals committing crimes, a foreseeable consequence of which is school districts and local governments having to expend financial and human resources to combat these crimes and/or assist the victims.

108. *Fifth*, Defendants knowingly implemented filters that promote negative social comparison. These filters—especially without any demarcation that a filter is in place—both fuel children's addiction to the Defendants' platforms and heighten the mental health toll on children in Plaintiffs' schools and communities.

109. *Sixth*, Defendants caused harm to Plaintiffs by knowingly implementing dangerous platform features that promote viral challenges through financial and social rewards, which result in property damage and trauma to children in Plaintiffs' schools and communities.

110. All of these features worked together and individually to addict young users to social media and to create the youth mental health crisis these Plaintiffs are fighting today.

111. For example, Defendants' platforms are designed and engineered to methodically, but unpredictably, space out dopamine-triggering rewards with dopamine gaps. Unpredictability is key because, paradoxically, IVR creates stronger associations (conditioned changes in the neural pathway) than fixed rewards. Platforms that use this technique are highly addictive or habit-forming. IVR is based on insights from behavioral science dating back to research in the 1950s by Harvard psychologist B. F. Skinner. Skinner found that laboratory mice respond most voraciously to unpredictable rewards. In one famous experiment, mice that pushed a lever received a variable reward (a small treat, a large treat, or no treat at all). Compared with mice who received the same treatment every time, the mice who received only occasional rewards were more likely to exhibit addictive behaviors such as pressing the lever compulsively. This exploitation of neural circuitry is precisely how addictive platforms like slot machines keep users coming back.

112. Slot machines are a pertinent example of how IVR works in an addictive product to keep users coming back.[79] Users pull a lever to win a prize and with each pull, the user may or may not win a prize (i.e., an intermittent reward that varies in value).

113. The IVR aspect of slot machines is limited by the fact that they deliver rewards in a randomized manner, irrespective of the person pulling the lever. By contrast, Defendants' platforms are designed to purposely withhold and release rewards on a schedule its algorithms have determined is optimal to heighten a specific user's craving and keep them using the platform. Defendants incorporate IVR into the design and operation of their respective platforms in various

[79] *See, e.g.*, Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction.

ways by "link[ing] a user's action (like pulling a lever) with a variable reward."[80] For example, when "we swipe down our finger to scroll the Instagram feed, we're playing a slot machine to see what photo comes next."[81] Meta also times and clusters notifications to delay gratifications and thereby build user anticipation. Without that delay, there would be no time for users' anticipation and craving to build. In slot machine terms, there would be "no sense of *will I win?*" because the user would know instantly."[82]

114. Former Google CEO Schmidt and psychologist Haidt also compared the manipulative design of social media platforms to a slot machine: "[T]hink of a slot machine, a contraption that employs dozens of psychological tricks to maximize its addictive power. Next, imagine … if they could create a new slot machine for each person, tailored in its visuals, soundtrack, and payout matrices to that person's interests and weaknesses. That's essentially what social media *already* does, using algorithms and AI[.]"[83]

115. As further described below, each of Defendants' platforms exploits this psychological reaction among its users, typically using "Likes," "Hearts," or other forms of approval that serve as the reward and are purposefully delivered in a way to create stronger associations and maximize addiction. For example, Instagram's notification algorithm will at times determine that a particular user's engagement will be maximized if the app withholds "Likes" on their posts and then later delivers them in a large burst of notifications.

116. Defendants' use of IVR is particularly effective and dangerous for adolescents, given that their brains have not completely matured and the tools that would allow them to moderate their

[80] Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016), https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html.

[81] *Id.*

[82] *Id.*

[83] Jonathan Haidt and Eric Schmidt, *AI is about to make social media (much) more toxic*, The Atlantic (May 5, 2023), https://www.theatlantic.com/technology/archive/2023/05/generative-ai-social-media-integration-dangers-disinformation-addiction/673940/.

use of Defendants' apps—impulse control and executive function—are still under development.

117. Defendants' platforms also manipulate young users through their exploitation of "reciprocity"—the psychological phenomenon by which people respond to positive or hostile actions in kind. Reciprocity means that people respond in a friendly manner to friendly actions, and with negative retaliation to hostile actions.[84] In the 1970s, sociologists Phillip Kunz and Michael Woolcott famously illustrated the powerful effect of reciprocity through an experiment using holiday cards. They sent cards to a group of complete strangers, and included a return address indicating that they were from either "Dr. and Mrs. Kunz" or "Phil and Joyce."[85] People whom Kunz had never met before reciprocated, flooding him with holiday cards in return, some even including handwritten notes and pictures of their families.[86] Most of the responses did not even ask who "Dr. Kunz" was—they simply responded to his initial gesture with a reciprocal action.[87]

118. Platforms such as Instagram and Snapchat exploit reciprocity by, for example, automatically telling the sender, via an image attached to a post, when their message is seen, instead of letting the recipient avoid disclosing whether it was viewed. Consequently, the recipient feels more obligated to respond immediately, keeping users on the product.[88] Similarly, alerts and notifications of delivered messages or comments compel the recipient to return to the platform to respond.

119. Defendants' platforms and design features addict young users by preying on their

[84] Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3) J. Econ. Persps. 159-81 (2000), https://www.researchgate.net/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity.

[85] Phillip R. Kunz & Michael Woolcott, *Season's Greetings: From my status to yours*, 5(3) Soc. Sci. Rsch. 269-78 (Sept. 1976), https://doi.org/10.1016/0049-089X(76)90003-X.

[86] *Id.*

[87] *Id.*

[88] Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016), https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html.

already heightened need for social comparison and interpersonal feedback-seeking.[89] Because of their developmental stage, adolescents are primed to focus on social status, social comparisons, and a desire for social validation.[90] Defendants' platforms encourage repetitive usage by dramatically amplifying those insecurities.

120. Professor Prinstein has explained that online and real-world interactions are fundamentally different.[91] For example, in the real world, no public ledger tallies the number of consecutive days friends speak. Similarly, "[a]fter you walk away from a regular conversation, you don't know if the other person liked it, or if anyone else liked it."[92] By contrast, a design like the "Snap Streak" creates exactly such artificial forms of feedback.[93] On Defendants' platforms, friends and even complete strangers can publicly deliver (or withhold) dopamine-laced likes, comments, views, and follows.[94]

121. The "Like" feature on Facebook, Instagram, TikTok, and YouTube, and other comparable features common to Defendants' platforms has an especially powerful effect on teenagers and can neurologically alter their perception of online posts. Researchers at UCLA used magnetic resonance imaging to study the brains of teenagers as they used a program simulating

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[89] Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking*: Gender and Popularity Moderate Associations with Depressive Symptoms, 43 J. Abnormal Child Psych. 1427-38 (2015), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/.

[90] Susan Harter, *The Construction of the Self: Developmental and Sociocultural Foundations* (Guilford Press, 2d ed., 2012) (explaining how, as adolescents move toward developing cohesive self-identities, they typically engage in greater levels of social comparison and interpersonal feedback-seeking).

[91] Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), https://www.apa.org/news/apa/2022/social-media-children-teens.

[92] *Id.*

[93] A "Snap Streak" is designed to measure a user's Snapchat activity with another user. Two users achieve a "Snap Streak" when they exchange at least one Snap in three consecutive 24-hour periods. When successively longer "Streaks" are achieved, users are rewarded with varying tiers of emojis. *See infra* paras. 606-612.

[94] Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass'n (Aug. 25, 2022), https://www.apa.org/news/apa/2022/social-media-children-teens.

Instagram. They found that the teens' perceptions of a photo changed depending on the number of likes it had generated.[95] That an image was highly liked—regardless of its content—instinctively caused the girls to prefer it. As the researchers put it, teens react to perceived "endorsements," regardless of whether they know the source.[96]

122. Other features of Defendants' platforms also amplify the heightened awareness of status and appearance that is part of adolescence. Built into Defendants' platforms are appearance-altering filters, which underscore conventional (and often racially biased) standards of beauty, by allowing users to remove blemishes, make bodies and faces appear thinner, and lighten skin tone. Those features contribute to a harmful body image among adolescents, who begin to negatively perceive their own appearance and believe their bodies, and indeed their lives, to be comparatively worse.[97]

123. Defendants' respective platform features work in combination to create and maintain a user's "flow-like state": a hyper-focused, hypnotic state, where bodily movements are reflexive, and the user is totally immersed in smoothly rotating through aspects of the social media platform.[98] This experience of "flow," as psychologists describe it, "fully immerse[s]" users, distorts their perception of time, and is associated with excessive use of social media sites.[99]

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[95] Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psychol Sci. 1027 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/.

[96] *Id.*

[97] *Id.*; *See also* Nino Gugushvili et al., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC Psych. 10, 279 (2022), https://doi.org/10.1186/s40359-022-00990-7 (explaining that youth are particularly vulnerable because they "use social networking sites for construing their identity, developing a sense of belonging, and for comparison with others").

[98] *See, e.g.*, *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the World's Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (Dec. 13, 2021), https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/ (describing how IVR and infinite scrolling may induce a flow state in users).

[99] Nino Gugushvili *et al.*, *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC Psych. 10, 279

124. As discussed in more detail below, features like the ones just described can cause or contribute to the following injuries in young people: eating and feeding disorders; depressive disorders; anxiety disorders; sleep disorders; trauma- and stressor-related disorders; obsessive-compulsive and related disorders; disruptive, impulse-control, and conduct disorders; suicidal ideation; self-harm; and suicide.[100]

125. As a result, the Local Government and School District Plaintiffs have been forced to expend significant resources addressing the mental health and behavior of impacted young people and providing education and support to young people, staff, parents, and Plaintiffs' communities.

5. Defendants' illegally harvest children's data.

126. Defendants' exploitation of and harm to children has been driven by their illegal collection of children's data.

127. Recognizing the vulnerability of children under 13, particularly in the Internet Age, Congress enacted the Children's Online Privacy Protection Act ("COPPA") in 1999.[101] COPPA regulates the conditions under which Defendants can collect, use, or disclose the personal information of children under 13. Under COPPA, developers of platforms and websites that are directed to or known to be used by children under 13 cannot lawfully obtain the individually identifiable information of such children without first obtaining verifiable consent from their parents.[102]

(Nov. 28, 2022). *See, e.g.*, *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the World's Latest Social Media Craze*, Brown Undergraduate J. of Pub. Health (2021), https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/ (describing how IVR and infinite scrolling may induce a flow state in users).

[100] *Id.* (collecting sources).

[101] *See* 15 U.S.C. §§ 6501-6506.

[102] The FTC recently clarified that acceptable methods for obtaining verifiable parental consent include: (a) providing a form for parents to sign and return; (b) requiring the use of a credit/card online payment that provides notification of each transaction; (c) connecting to trained personnel via video conference; (d) calling a staffed toll-free number; (e) asking knowledge-based questions; or (f) verifying a photo-ID from the parent compared to a second photo using facial recognition

128. As a June 1998 report by the FTC observed, "[t]he immediacy and ease with which personal information can be collected from children online, combined with the limited capacity of children to understand fully the potentially serious safety and privacy implications of providing that information, have created deep concerns about current information practices involving children online."[103] The same report observed that children under the age of 13 "generally lack the developmental capacity and judgment to give meaningful consent to the release of personal information to a third party."[104]

129. Contemporaneous testimony by the Chairman of the FTC further observed that the Internet "make[s] it easy for children to disclose their personal information to the general public without their parents' awareness or consent. Such public disclosures raise safety concerns."[105] Further, "the practice of collecting personal identifying information directly from children without parental consent is clearly troubling, since it teaches children to reveal their personal information to strangers and circumvents parental control over their family's information."[106]

130. But heedless of these risks, and the black letter requirements of COPPA, no Defendant conducts proper age verification or authentication. Instead, each Defendant relies on users to self-report their age. This facially inadequate system allows children under 13 to easily create accounts on Defendants' platforms.

131. Defendants have long been on notice of the defects in this system. For instance, in May 2011, Consumer Reports reported the "troubling news" that 7.5 million children under 13 were

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technology. *Complying with COPPA: Frequently Asked Questions*, FTC (July 2020), https://www.ftc.gov/business-guidance/resources/complying-coppa- frequently-asked-questions.

[103] Privacy Online: *A Report to Congress, Federal Trade Commission* (1998) at 5.

[104] *Id.*

[105] S. 2326, Children's Online Privacy Protection Act of 1998: Hearing Before the U.S. Sen. Subcom. On Communications, Comm. On Commerce, Science, and Transportation, 105th Cong. 11 (1998) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

[106] *Id.*

on Facebook.[107]

132. Given that Defendants have developed and utilized age-estimation algorithms for the purpose of selling user data and targeted advertisements, Defendants could readily use these algorithms to prevent children under 13 from accessing their platforms.

133. But doing so would imperil Defendants' ability to profit from children—the exact business strategy that COPPA was enacted to prevent. So they have instead chosen to be willfully blind to the deep inadequacies of their age verification systems and the rampant use of their products by children under 13.

6. Defendants' Conduct has created a youth mental health crisis.

134. The result of Defendants' destructive design choices has been a crisis in children's mental health.

135. Nearly a decade of scientific and medical studies demonstrate that dangerous features engineered into Defendants' platforms—particularly when used multiple hours a day—can have a "detrimental effect on the psychological health of [their] users," including compulsive use, addiction, body dissatisfaction, anxiety, depression, and self-harming behaviors such as eating disorders.[108]

136. Defendants' platforms employ features that are designed for ease of access, rewards and reinforcement, gamification, escapism, and lack of regulation.[109] These features cause online social media experiences to become addictive such that adolescents experience depression, anxiety,

[107] Emily Bazelon, *Why Facebook is After Your Kids*, N.Y. Times (Oct. 12, 2011), https://www.nytimes.com/2011/10/16/magazine/why-facebook-is-after-your-kids.html.

[108] *See, e.g.*, Fazida Karim et al., *Social Media Use and Its Connection to Mental Health: A Systemic Review*, Cureus Volume 12(6) (June 15, 2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/; Alexandra R. Lonergan et al., Protect me from my selfie: Examining the association between photo-based social media behaviors and self-reported eating disorders in adolescence, Int. J. of Eating Disorders 756 (Apr. 7, 2020), https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256.

[109] Puruesh Chaudhary, *A Slow Scroll Into Addiction*, Aurora Dawn, (Sept. 4, 2023) https://aurora.dawn.com/news/1144883.

loneliness, and lower self-esteem and life satisfaction.[110]

137. Addiction and compulsive use of Defendants' platforms can entail a variety of behavioral problems, including but not limited to: (1) a lessening of control, (2) persistent, compulsive seeking out of access to the platform, (3) using the platform more, and for longer, than intended, (4) trying to cut down on use but being unable to do so, (5) experiencing intense cravings or urges to use the platform, (6) tolerance (needing more of the platform to achieve the same desired effect), (7) developing withdrawal symptoms when not using the platform, or when the platform is taken away, (8) neglecting responsibilities at home, work, or school because of the intensity of usage, (9) continuing to use the platform even when doing so interferes and causes problems with important family and social relationships, (10) giving up important or desirable social and recreational activities due to use, and (11) continuing to use despite the platform causing significant harm to the user's physical and mental health.

138. Each Defendant has long been aware of research connecting use of their platforms with harm to its users' wellbeing, but chose to ignore or brush it off.[111] For example, in 2018, Meta employees mocked it as "BS . . . pseudo science," [sic] and "a bunch of people trying to get air time."[112] Yet, as discussed at length below, Defendants conducted much of this research themselves—and then hid their unfavorable findings from the public.[113]

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[110] *Id.*

[111] In August 2019, a social psychologist, and leading expert on the effects that technology devices have on the mental health of their users, wrote to Mr. Zuckerberg ahead of a meeting to note that a new study "point[ed] heavily to a connection, not just from correlational studies but from true experiments, which strongly indicate[d] causation, not just correlation" between Meta's platforms and harms to users' wellbeing. META3047MDL-003-00089107 at META3047MDL-003-00089108. In some cases, Meta was not only aware of research connecting its platforms to detrimental effects but actively sought to undermine that research. *See* META3047MDL-003-00082165 at META3047MDL-003-00082165 (discussing methods to undermine research on addiction to apps).

[112] META3047MDL-003-00082165.

[113] *See, e.g.*, Haugen_00016373 at Haugen_00016381 ("The best external research indicates that Facebook's impact on people's well-being is negative."); Haugen_00016373 at Haugen_00016414 (Mar. 9, 2020 presentation stating "All problematic users were experiencing multiple life impacts,"

139. Scientists have studied the impacts of the overuse of social media since at least 2008, with social media addiction recognized in literature around that time after a pervasive upsurge in Facebook use. The Bergen Social Media Addiction Scale assesses social media addiction along six core elements: 1) salience (preoccupation with the activity), 2) mood modification (the behavior alters the emotional state), 3) tolerance (increasing activity is needed for the same mood-altering effects), 4) withdrawal (physical or psychological discomfort when the behavior is discontinued), 5) conflict (ceasing other activities or social interaction to perform the behavior), and 6) relapse (resuming the behavior after attempting to control or discontinue it).[114]

140. Social media addiction is more prevalent among younger age groups.[115] Researchers note that such "high prevalence in adolescence unveils the need to allocate more public resources on mental health services to prevent or treat social media addiction in this high-risk group."[116]

141. Beginning in at least 2014, researchers began demonstrating that addictive and compulsive use of Defendants' platforms leads to negative mental and physical outcomes for kids.

142. Subsequent literature has shown that social media addiction causes a wide range of negative effects. These negative effects generally fall into four categories, as further discussed below: (1) emotional; (2) relational; (3) health-related; and (4) performance problems.[117]

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including loss of productivity, sleep disruption, relationship impacts, and safety risks); Haugen_00005458 at Haugen_00005500 (Sept. 18, 2019 presentation containing a slide stating "But, We Make Body Image Issues Worse for 1 in 3 Teen Girls").

[114] Cecilie Andreassen et al., *The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: a large-scale cross-sectional study*, 30(2) Psychol. of Addictive Behav., 252-62 (2016), http://dx.doi.org/10.1037/adb0000160.

[115] *See* Cecilia Cheng et al, *Prevalence of Social Media Addiction Across 32 Nations: Meta-analysis with Subgroup Analysis of Classification Schemes and Cultural Values*, Addictive Behaviors 117 (2023), https://doi.org/10.1016/j.addbeh.2021.106845; Lucia Monacis, *Exploring Individual Differences in Online Addictions: The Role of Identity and Attachment*, International Journal of Mental Health and Addiction 15, 853-868 (2017).

[116] *Id.*

[117] Andreassen, C. S., *Online Social Network Site Addiction: A Comprehensive Review*, Current Addiction Reports, 2, 175–184 at 179 (2015), https://doi.org/10.1007/s40429-015-0056-9.

143. In 2014, a study of 10- to 12-year-old girls found that increased use of Facebook was linked with body image concerns, the idealization of thinness, and increased dieting.[118] This study was sent to Mark Zuckerberg in 2018, in a letter signed by 118 public health advocates.[119]

144. In 2016, a study demonstrated that young people who frequently use Defendants' platforms are more likely to suffer sleep disturbances than their peers who use them infrequently.[120] Defendants' platforms, fueled by recommendation systems that rely on content-agnostic user interaction data deprive users of sleep by using a variety of design features that prompt children to re-engage with the platforms when they should be sleeping. Disturbed and insufficient sleep is associated with poor health outcomes,[121] including increased risk of major depression—by a factor of more than three[122]—and future suicidal behavior in adolescents.[123] The American Academy of Sleep Medicine has recommended that, in a 24-hour period, children aged 6-12 years should

[118] Marika Tiggemann & Amy Slater, *NetTweens: The Internet and body image concerns in preteenage girls*, 34(5), J. Early Adolesc. 606-20 (June 2014), https://journals.sagepub.com/doi/epub/10.1177/0272431613501083.

[119] Campaign for a Commercial-Free Childhood, *Letter to Mark Zuckerberg Re: Facebook Messenger Kids* (Jan. 30, 2018), https://fairplayforkids.org/wp-content/uploads/archive/devel-generate/gaw/FBMessengerKids.pdf..

[120] Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36-41 (Apr. 2016), https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025.

[121] Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016), https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025; National Institute of Mental Health. 2016. The teen brain: 6 things to know, https://www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml.; R. Sather& A. Shelat, *Understanding the teen brain*, Univ. of Rochester Med. Ctr., https://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=3051 (last visited Dec. 12, 2023).

[122] E. Roberts & H Doung, *The Prospective Association between Sleep Deprivation and Depression among Adolescents Sleep*, Volume 37, Issue 2, 1 Feb. 2014.

[123] X. Liu, D. Buysse, *Sleep and youth suicidal behavior: a neglected field,* Current Opinion in Psychiatry (May 2006).

regularly sleep 9-12 hours and teenagers aged 13-18 years should sleep 8-10 hours.[124] Yet studies show that young children are losing approximately one night's worth of sleep every week, staying up to use social media or even waking themselves up in the middle of the night to check notifications, driven by fear of missing out.[125]

145. High numbers of teens also self-report their experiences with the negative consequences of extended social media use on their sleep. In a 2023 survey, 41% of teenage girls who use TikTok said it interferes with their sleep at least weekly, with 24% saying it interferes with their sleep daily.[126] Similarly, 28% of teenage girls who use YouTube said it interferes with their sleep at least weekly; the same is true for 29% of teenage girls who use Instagram and 31% of teenage girls who use Snapchat.[127]

146. In another 2016 study, 52% of girls said they use image filters every day, and 80% reported using an app to change their appearance before the age of 13.[128] In fact, 77% of girls reported trying to change or hide at least one part of their body before posting a photo of themselves, and 50% believe they did not look good enough without editing.[129]

147. In 2017, British researchers asked 1,500 teens to rate how Instagram, Snapchat, and

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[124] S. Paruthi, L. Brooks, C. D'Ambrosio, et al, Consen*sus statement of the American Academy of Sleep Medicine on the recommended amount of sleep for healthy children: methodology and discussion*, 12 J Clin Sleep Med 1549–61 (2016).

[125] Beatrice Nolan, *Kids are waking up in the night to check their notifications and are losing about 1 night's worth of sleep a week, study suggests*, Bus. Insider (Sept. 19, 2022), https://www.businessinsider.com/social-media-costing-children-one-night-sleep-study-2022-9.

[126] Jacqueline Nesi et al, *Teens and Mental Health: How Girls Really Feel about Social Media* at 26, Common Sense Media (2023), https://www.commonsensemedia.org/sites/default/files/research/report/how-girls-really-feel-about-social-media-researchreport_web_final_2.pdf.

[127] *Id.*

[128] Anna Haines, *From "Instagram Face" to "Snapchat Dysmorphia": How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff.

[129] *Id.*

YouTube affected them on certain well-being measures, including anxiety, loneliness, body image, and sleep.[130] Teens rated all three platforms as having a negative impact on body image, "FOMO" (fear of missing out), and sleep. Teens also noted that Instagram and Snapchat had a negative impact on anxiety, depression, and loneliness.

148. In 2018, a *Journal of Social and Clinical Psychology* study examined a group of college students whose use of Instagram, Facebook, and Snapchat was limited to 10 minutes per day per platform. The study found that this limited-use group showed "significant reductions in loneliness and depression over three weeks" compared to a control group that used social media as usual.[131]

149. Similarly, in another 2018 study of 40,000 children and adolescents ages 2–17, children and adolescents who spent more time using screen media were "lower in psychological well-being than low users."[132] Further, users with high screen time were "significantly more likely to display poor emotion regulation (not staying calm, arguing too much, being difficult to get along with), an inability to finish tasks, lower curiosity, and more difficulty making friends."[133] And among adolescents, high screentime users were twice as likely to receive a diagnosis of depression or anxiety or need treatment for mental or behavioral health problems.[134]

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[130] Royal Society for Public Health, *#StatusOfMind*, https://www.rsph.org.uk/static/uploaded/d125b27c-0b62-41c5-a2c0155a8887cd01.pdf, (last visited Dec. 12, 2023); *see also* Jonathan Haidt, *The Dangerous Experiment on Teen Girls*, The Atlantic (Nov. 21, 2021), https://www.theatlantic.com/ideas/archive/2021/11/facebooks-dangerous-experiment-teen-girls/62077/.

[131] Melissa G. Hunt et al., *No More FOMO: Limiting Social Media Decreases Loneliness and Depression*, 37 J. of Social & Clinical Psych. (Dec. 5, 2018), https://guilfordjournals.com/doi/epdf/10.1521/jscp.2018.37.10.751.

[132] Jean M. Twenge & W. Keith Campbell, *Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study*, 12 Prev. Med. Rep. 271-83 (2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6214874/.

[133] *Id.*

[134] *Id.*

150. A 2019 survey of American adolescents ages 12-14 found that a user's displeasure with their body could be predicted based on their frequency of using social media (including Instagram and Facebook) and based on the extent to which they engaged in behaviors that adopt an observer's point-of-view (such as taking selfies or asking others to "rate one's looks"). This effect was more pronounced among girls than boys.[135]

151. Another study in 2019 of more than 6,500 American adolescents ranging in age from 12 to 15 years old found that those who used social media for three hours or more per day were more likely to suffer from mental health problems such as anxiety and depression.[136] Notably, this association remained significant even after adjusting for demographics, past alcohol and marijuana use, and history of mental health problems, mitigating the possibility of reverse causality.[137] This study also showed that "[a]dolescents who engage in high levels of social media use may experience poorer quality sleep" and that increased social media use could be associated with an increased risk of "cyberbullying, which has a strong association with depressive symptoms." Further, the study noted "negative body image," "anxiety" and "depression" as connected to social media use.[138]

152. In 2020, a study of Australian adolescents found that investment in others' selfies (through likes and comments) was associated with greater odds of meeting criteria for clinical/subclinical bulimia nervosa, clinical/subclinical binge-eating disorder, night eating syndrome, and unspecified feeding and eating disorders.[139]

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[135] Ilyssa Salomon & Christia Spears Brown, *The Selfie Generation: Examining the Relationship Between Social Media Use and Early Adolescent Body Image*, Journal of Early Adolescence (Apr. 21, 2018), https://journals.sagepub.com/doi/abs/10.1177/0272431618770809.

[136] Kira Riehm et al., *Associations between time spent using social media and internalizing and externalizing problems among US youth*, 76(12) JAMA Psychiatry (2019), https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749480.

[137] *Id.*

[138] *Id.*

[139] Alexandra R. Lonergan et al., *Protect Me from My Selfie: Examining the Association Between Photo-Based Social Media Behaviors and Self-Reported Eating Disorders in Adolescence*, Int'l J. of Eating Disorders (Apr. 7, 2020), https://onlinelibrary.wiley.com/doi/epdf/10.1002/eat.23256.

153. In 2020, a longitudinal study investigated whether "Facebook Addiction Disorder" predicted suicide-related outcomes and found that children and adolescents addicted to Facebook are more likely to engage in self-injurious behavior, such as cutting and suicide.[140] Other studies examining the link between these increases found that adolescents who spent more time on screen activities were significantly more likely to have high depressive symptoms or have at least one suicide-related outcome, and that the highest levels of depressive symptoms were reported by adolescents with high social media use and fewer in-person social interactions.[141]

154. One of the primary reasons the use of social media is associated with depressive symptoms among adolescents is because Defendants' platforms encourage unhealthy social comparison and feedback-seeking behaviors.[142] As a result, they are likely to engage in negative comparisons with their peers.[143] Specifically, adolescents are likely to engage in harmful upward comparisons with others they perceive to be more popular.[144]

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[140] *See, e.g.*, Julia Brailovskaia et al., *Positive mental health mediates the relationship between Facebook addiction disorder and suicide-related outcomes: a longitudinal approach*, 00(00) Cyberpsychology, Behavior, and Social Networking (2020), https://doi.org/10.1089/cyber.2019.0563; Jean M. Twenge et al., Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time, 6 Clinical Psych. Sci. 3–17 (2018).

[141] Jean M. Twenge *et al*., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 Clinical Psych. Sci. 3–17 (2017), https://doi.org/10.1177/2167702617723376; *see also* Anthony Robinson et al, *Social comparisons, social media addiction, and social interaction: An examination of specific social media behaviors related to major depressive disorder in a millennial population*, Journal of Applied Biobehavioral Research (Jan. 8, 2019), https://doi.org/10.1111/jabr.12158.

[142] Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. Abnormal Child Psych. 1427-38 (2015), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/.

[143] *Id.*; *see also* Nino Gugushvili *et al*., *Facebook use intensity and depressive symptoms: a moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC Psych. 10, 279 (2022), https://doi.org/10.1186/s40359-022-00990-7 (explaining that youth are particularly vulnerable because they "use social networking sites for construing their identity, developing a sense of belonging, and for comparison with others").

[144] *Id.*

155. In 2020, clinical research demonstrated an observable link between youth social media use and disordered eating behavior.[145] The more time young girls spend using Defendants' platforms, the more likely they are to develop disordered eating behaviors.[146] And the more social media accounts adolescents have, the more disordered eating behaviors they exhibit.[147]

156. Eating disorders often occur simultaneously with other self-harm behaviors such as cutting and are often associated with suicide.[148]

157. A 2022 study of Italian adolescent girls ages 12-17 and young women ages 18-28 found that Instagram's image editing and browsing features, combined with an emphasis on influencer interactions, promulgated unattainable body ideals that caused users to compare their bodies to those ideals.[149] These trends were more prominent among adolescent girls, given their higher susceptibility to social pressures related to their bodies and given the physical changes associated with puberty.

158. In 2023, a study of magnetic resonance images demonstrated that compulsive use of Defendants' platforms measurably alters children's brains.[150] This study measured fMRI responses in 12-year-old adolescents who used Facebook, Instagram, and Snapchat over a three-year period and found that neural patterns diverged. Specifically, those who engaged in high social media

[145] Simon M. Wilksch et al., *The relationship between social media use and disordered eating in young adolescents*, 53 Int'l J. Eating Disorders 96-106 (2020), https://pubmed.ncbi.nlm.nih.gov/31797420/.

[146] *Id.*

[147] *Id.*

[148] Sonja Swanson et al., *Prevalence and correlates of eating disorders in adolescents*, 68(7) Arch Gen Psychiatry 717-23 (2011), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5546800/.

[149] Federica Pedalino and Anne-Linda Camerini, *Instagram use and body dissatisfaction: The mediating role of upward social comparison with peers and influencers among young females*, 19(3) Int'l J of Environmental Research and Public Health 1543 (2022), https://www.mdpi.com/1660-4601/19/3/1543.

[150] Maria Maza et al., *Association of habitual checking behaviors on social media with longitudinal functional brain development*, JAMA Ped., (Jan. 3, 2023), https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812.

checking behavior "showed lower neural sensitivity to social anticipation" than those who engaged in low to moderate checking behavior.[151]

159. Problematic social media use is also linked to self-reported and diagnosed attention-deficit/hyperactivity disorder ("ADHD") in adolescents.[152] One longitudinal study of adolescents found that over two years, high-frequency use of digital media, including social media, was associated with statistically significant increased odds of developing ADHD symptoms.[153] As another study notes, social media presents "potentially distracting activities [that] may co-occur with other behaviours such as short-term attention, restlessness, forgetfulness, impulsiveness and decreased ability to retain information. These behaviours are symptoms of ADHD that can lead to maladaptive functioning in academic, home and recreational settings."[154]

160. Social media addiction can also cause individuals to perform worse in other activities. In the academic context, several studies have shown that excessive social media use and addiction is related to poorer academic performance and receiving lower grades.[155] Such poor academic

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[151] *Id.*

[152] Dekkers, T. J., & van Hoorn, J., *Understanding Problematic Social Media Use in Adolescents with AttentionDeficit/Hyperactivity Disorder (ADHD): A Narrative Review and Clinical Recommendations*, Brain Sciences, 12(12), 1625 (Nov. 26, 2022), https://doi.org/10.3390/brainsci12121625; Maartje Boer et al, *Attention Deficit Hyperactivity Disorder-Symptoms, Social Media Use Intensity, and Social Media Use Problems in Adolescents: Investigating Directionality*, Child Development Vol. 91(4), 853-865 (Oct. 26, 2019), https://doi.org/10.1111/cdev.13334.

[153] Ra, C. K., Cho, J., Stone, M. D., De La Cerda, J., Goldenson, N. I., Moroney, E., Tung, I., Lee, S. S., & Leventhal, A. M., *Association of Digital Media Use With Subsequent Symptoms of Attention-Deficit/Hyperactivity Disorder Among Adolescents*. JAMA, 320(3), 255-63 (Jul. 17, 2018). https://doi.org/10.1001/jama.2018.8931.

[154] Zaheer Hussain and Mark D. Griffiths, *The Associations Between Problematic Social Networking Site Use and Sleep Quality, Attention-Deficit Hyperactivity Disorder, Depression, Anxiety and Stress*, International Journal of Mental Health and Addiction 19, 686-700 (2021), https://doi.org/10.1007/s11469-019-00175-1.

[155] Emre Çam and Onur Isbulan, *A new addiction for teacher candidates: social networks*. Turk Online J. Educ Technology11(3) 14–19 (July 2012), https://www.researchgate.net/publication/267556427_A_new_addiction_for_teacher_candidates_Social_networks; Mustafa Koc and Seval Gulyagci, *Facebook addiction among Turkish college*

performance is often linked to (1) distraction from multitasking on social media, thereby adversely affecting learning, and (2) high enough usage to amount to addiction, which increases academic procrastination and reduces sleep time and quality, increasing academic stress.[156] And studies show that the amount of time a student spends on social media is negatively correlated with their academic performance, meaning the more a student spends on social media the worse their grades are.[157] In fact, eight out of ten Gen Z students say social media distracts from schoolwork, with 72% of students saying they frequently viewed their social media platform notifications while completing schoolwork or studying.[158] Noting the "negative and significant relationship between the overall use of social networks and academic performance of students," one study author has stated it is "imperative" for school authorities to "take interventional steps to help students who are dependent

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students: the role of psychological health, demographic, and usage characteristics, Cyberpsychol Behav Soc Netw. 16(4) 279–84 (Apr. 2013), https://doi.org/10.1089/cyber.2012.0249; Paul Kirschner and Aryn Karpinski, *Facebook and academic performance*, Computers in Human Behavior Vol. 26(6), 1237–45 (Nov. 2010), https://doi.org/10.1016/j.chb.2010.03.024; Manjur Kolhar et al, *Effect of Social Media Use on Learning, Social Interactions, and Sleep Duration Among University Students*, Saudi Journal of Biological Sciences Vol. 28 (4) 2216-2222 (Apr. 2021), https://doi.org/10.1016/j.sjbs.2021.01.010.

[156] Ajay M. Bhandarkar, *Impact of social media on the academic performance of undergraduate medical students*, Med. J. Armed Forces India 77 (Suppl. 1) S37-41 (Feb. 2, 2021), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7873710/ (citing Karpinski A.C., Kirschner P.A., Ozer I., Mellott J.A., Ochwo P. *An exploration of social networking site use, multitasking, and academic performance among United States and European university students*, Comput Hum. Behav. 2013 May 1;29(3):1182–1192; Azizi S.M., Soroush A., Khatony A. *The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study*, BMC Psychol. 2019 May 3;7(1):28, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6500070/; *see* Yubo Hou et al, *Social Media Addiction: Its Impact, Mediation, and Intervention*, Cyberpsychology: Journal of Psychosocial Research on Cyberspace 13(1) Article 4, https://www.researchgate.net/profile/Lili-Song-15/publication/331294811_Social_media_addiction_Its_impact_mediation_and_intervention/links/5cd0dd5c92851c4eab87db46/Social-media-addiction-Its-impact-mediation-and-intervention.pdf?_sg%5B0%5D=started_experiment_milestone&origin=journalDetail.

[157] Jamal Al-Menayes, *Social Media Use, Engagement and Addiction as Predictors of Academic Performance*, International Journal of Psychological Studies Vol. 7(4) (Nov. 10, 2015), http://dx.doi.org/10.5539/ijps.v7n4p86.

[158] Karen D'Souza, *Eight out of 10 Gen Zers say social media districts from schools*, EdSource, https://edsource.org/updates/eight-out-of-10-gen-zers-say-social-media-distracts-from-school.

on these [social media] networks and, through workshops, inform them about the negative consequences of addiction to social networks."[159]

161. Defendants' platforms have triggered depression, anxiety, eating disorders, self-harm, and suicidality among thousands of children, including those in Plaintiffs' schools and communities. Defendants have created nothing short of a national crisis.

162. From 2009 to 2019, the rate of high school students who reported persistent sadness or hopelessness increased by 40% (to one out of every three students).[160] The share of kids who seriously considered suicide increased by 36%, and those that created a suicide plan increased by 44%.[161]

163. From 2007 to 2019, suicide rates among youth aged 10-24 in the United States increased by 57%.[162] By 2018, suicide was the second leading cause of death for youth ages 10–24.[163]

164. From 2007 to 2016, emergency room visits for youth aged 5-17 rose 117% for anxiety disorders, 44% for mood disorders, and 40% for attention disorders.[164]

165. By 2019, one-in-five children aged 3-17 in the United States had a mental, emotional,

[159] Azizi S.M., Soroush A., Khatony A. *The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study*, BMC Psychol. 2019 May 3;7(1):28, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6500070/.

[160] *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory* at 8, U.S. Dep't of Health & Hum. Servs. (Dec. 7, 2021), https://www.hhs.gov/sites/default/files/surgeon-general-youth- mental-health-advisory.pdf.

[161] *Id.*

[162] *Id.*

[163] *AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental Health*, Am. Acad. Pediatrics (Oct. 19, 2021), https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/.

[164] Charmaine Lo, *Children's mental health emergency department visits: 2007-2016*, 145(6) Pediatrics e20191536 (June 2020), https://doi.org/10.1542/peds.2019-1536.

developmental, or behavioral disorder.[165]

166. In December 2021, the United States Surgeon General issued an advisory on the youth mental health crisis.[166] The Surgeon General explained, "[m]ental health challenges in children, adolescents, and young adults are real and widespread. Even before the pandemic, an alarming number of young people struggled with feelings of helplessness, depression, and thoughts of suicide—and rates have increased over the past decade."[167] Those "mental health challenges were the leading cause of disability and poor life outcomes in young people."[168]

167. In February 2023, the CDC released new statistics revealing, the horrible state of youth mental health.[169]

168. This CDC survey showed that "[i]n 2021, 42% of high school students felt so sad or hopeless almost every day for at least two weeks in a row that they stopped doing their usual activities"; 57% of female high school students reported feeling "persistent feelings of sadness or hopelessness" in 2021, compared to 36% in 2011; 41% of female respondents and 29% of all respondents report experiencing "poor mental health" in the past 30 days; 30% of female high school

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[165] *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep't of Health & Hum. Servs. (Dec. 14, 2021), https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis- further-exposed-by-covid-19-pandemic/; *see also* Jean M. Twenge et al., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 Clinical Psych. Sci. 3–17 (2017), https://doi.org/10.1177/216770261772337 (noting that mental health issues are particularly acute among females).

[166] *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic*, U.S. Dep't of Health & Hum. Servs. (Dec. 14, 2021), https://adasoutheast.org/u-s-surgeon-general-issues-advisory-on-youth-mental-health-crisis- further-exposed-by-covid-19-pandemic/.

[167] *Id.*

[168] *Id.*

[169] Azeen Ghorayashi & Roni Caryn Rabin, *Teen Girls Report Record Levels of Sadness, C.D.C. Finds*, N.Y. Times (Feb. 13, 2023), https://www.nytimes.com/2023/02/13/health/teen-girls- sadness-suicide-violence.html.

students had "seriously considered attempting suicide" in the past year, compared to 19% in 2011.[170]

169. In 2022, an analysis of datasets comprising 84,011 participants found that the cross-sectional relationship between use of Defendants' platforms and life satisfaction ratings is most negative in younger adolescents.[171] Longitudinal analyses revealed windows of sensitivity to social media and adolescents between ages 11 and 19 years old, and that decreases in life satisfaction ratings also predict subsequent increases in social media use.[172]

170. In 2023, young adolescent participants in a cohort study who engaged in habitual social media checking behaviors showed a distinct neurodevelopmental trajectory within regions of the brain comprising the affective salience, motivational, and cognitive control networks in response to anticipating social rewards and punishments compared with those who engaged in nonhabitual checking behaviors.[173] In other words, these results showed that "teens who grow up checking social media more often are hypersensitive to feedback from their peers."[174] Previous studies confirm that social media use is associated with changes to users' brain anatomy. In another study, MRI scans of 20 social media users with varying degrees of social media addiction showed social media addiction is associated with a more efficient impulsive brain system, demonstrated by reduced gray

[170] *Youth Risk Behavior Survey Data Summary & Trends Report*, CDC (2021), https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBS_Data-Summary-Trends_Report2023_508.pdf.

[171] Amy Orben, Andrew K. Przybylski, Sarah-Jayne Blakemore, and Roger A. Kievit, *Windows of developmental sensitivity to social media*, Nature Communications (Mar. 28, 2022) https://www.nature.com/articles/s41467-022-29296-3.

[172] *Id.*

[173] Maria T. Maza, Kara A. Fox, She-Joo Kwon, et al. *Association of Habitual Checking Behaviors on Social Media with Longitudinal Functional Brain Development*, (Jan. 3. 2023) https://jamanetwork.com/journals/jamapediatrics/article-abstract/2799812?resultClick=3.

[174] Ellen Barry, *Social Media Use Is Linked to Brain Changes in Teens, Research Finds*, New York Times (Jan. 3, 2023), https://www.nytimes.com/2023/01/03/health/social-media-brain-adolescents.html.

matter volumes in the amygdala (bilaterally).[175] This pruning of the amygdala presumably leads to generating strong impulsive behaviors. Such brain alteration is similar to that associated with other addictive activities like gambling and substance abuse.

171. Published in 2023, a systemic search from January 2004 to July 2022 evaluated the impact of social media interventions on mental well-being and demonstrated that abstinence from Defendants' platforms is effective in improving mental well-being, especially for depression.[176]

172. Use of Defendants' platforms by adolescent females significantly affects their wellbeing.[177] Moreover, the use of specific features on Defendants' platforms is a strong predictor of negative body image perception, increase in social media addiction, and scores on the Appearance Related Social Media Consciousness Scale, the Social Media Addiction Scale for Adolescents, and the Body Image Scale.[178]

173. A 2023 study from May to August of high school students demonstrated that as the level of social media addiction increases, adolescents are becoming increasingly socially ostracized and experiencing harmful levels of loneliness.[179]

174. In another 2023 experimental study, 50 students were allocated randomly into groups either using social media as normal or reducing their usage by 15 minutes a day. Over the three-

[175] Quinghua He, Ofit Turel, & Antoine Bechara, *Brain Anatomy Alterations Associated with Social Networking Site (SNS) Addiction*, Scientific Reports, 7, 45064 (2017), https://www.nature.com/articles/srep45064.

[176] Ruth Plackett, Alexandra Blyth, Patricia Schartau, *Impact of Social Media Use Interventions on mental Well-Being: Systemic Review*, Journal of Medical Internet Research (Aug. 11, 2023) https://www.jmir.org/2023/1/e44922/.

[177] Sevim Cimke, PhD, and Dilek Gurkan, PhD, *Factors affecting body image perception, social media addiction, and social media consciousness regarding physical appearance in adolescents*, Journal of Pediatric Nursing (Sept. 16, 2023) https://www.sciencedirect.com/science/article/abs/pii/S0882596323002506.

[178] *Id.*

[179] Necmettin Ciftci, Metin Yildiz, Kamile Ciftci, *The mediating role of social ostracism in the effect of social media addiction on loneliness in adolescents*, Journal of Pediatric Nursing, Vol. 73 (Dec.2023) https://www.sciencedirect.com/science/article/abs/pii/S0882596323002452.

month period, the group reducing social media activity reported "less social media dependence, and improved general health and immune functioning, as well as reduced feelings of loneliness and depression."[180] Not only did this study confirm prior cross-sectional studies showing an association between reduced social media use and improved health, this study had the advantage "in showing an experimentally-controlled relationship between reduced social media activity and improved wellbeing . . . adding to the suggestion of a causal connection."[181]

175. In May 2023, the United States Surgeon General issued an advisory titled "Social Media and Youth Mental Health."[182] The advisory "calls attention to the growing concerns about the effects of social media on youth mental health."[183] The advisory noted that "[s]ocial media platforms are often designed to maximize user engagement" and highlighted the use of "algorithms that leverage user data" to achieve maximum engagement.[184] Consistent with Defendants having known of the harm their platforms cause users, particularly youth, the Surgeon General's advisory noted "[t]here is broad concern … that a lack of access to data and lack of transparency from technology companies have been barriers to understanding the full scope and scale of the impact of social media on mental health and well-being."[185] Put another way, Defendants have gone to great lengths to prevent the public from gaining knowledge of the serious harms that result from excessive use of social media.[186]

176. Also in May 2023, the American Psychological Association issued a health advisory

[180] Reed, P., Fowkes, T. & Khela, M. *Reduction in Social Media Usage Produces Improvements in Physical Health and Wellbeing: An RCT*, Journal of Technology in Behavioral Science 8, 140-47 (2023). https://doi.org/10.1007/s41347-023-00304-7.

[181] *Id.*

[182] United States Surgeon General advisory "*Social Media and Youth Mental Health*" (May 2023), https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf.

[183] *Id.*

[184] *Id.*

[185] *Id.*

[186] *Id.*

on social media use in adolescence due to the harmful effects of social media use on adolescents' social, educational, psychological, and neurological development.[187] Both visible and unknown features built into social media platforms inform adolescent experiences on such platforms. The Association recommends that Defendants tailor platform features such as the "Like" button, recommended posts, unrestricted time limits, endless scrolling, notices, and alerts to the social and cognitive abilities of adolescent users.[188]

177. The scientific literature recognizes that design features of social media platforms cause problematic social media use, social media addiction, and resulting negative mental health outcomes.[189] These harms result from the Defendants' conduct in designing, developing, producing, operating, promoting, distributing, and marketing their social media platforms to attract and addict minors.

178. Further, "[n]early all researchers now agree that there are correlations between … time spent on social media and … mental health problems."[190] The literature indicates that higher use and higher social media addiction scores are more positively associated with more severe health

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[187] *Health Advisory on Social Media Use in Adolescence*, American Psychological Association, (May 2023) https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use.pdf.

[188] *Id.*

[189] Christian Montag et al, *Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories*, International Journal of Environmental Research and Public Health (July 23, 2019), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6679162/; Christian Montag & Jon D. Elhai, *On Social Media Design, (Online-) Time Well-spent and Addictive Behaviors in the Age of Surveillance Capitalism*, Current Addiction Reports (May 31, 2023), https://doi.org/10.1007/s40429-023-00494-3; Maeva Flayelle et al, *A Taxonomy of Technology Design Features that Promote Potentially Addictive Online Behaviors*, Nature Reviews Psychology (Feb. 14, 2023), https://doi.org/10.1038/s44159-023-00153-4.

[190] Jonathan Haidt, Zach Rausch, & Jean Twenge, *Social media and mental health: A collaborative review*, Unpublished manuscript, N.Y. Univ. (Feb 7, 2019), https://docs.google.com/document/d/1w-HOfseF2wF9YIpXwUUtP65-olnkPyWcgF5BiAtBEy0/edit..

outcomes.[191]

179. As discussed herein, each of Defendants' platforms manipulates young users' brains by building in stimuli and social reward mechanisms (*e.g.*, "Likes") that cause users, including children in Plaintiffs' schools and communities, to compulsively seek social rewards. That, in turn, leads to neuroadaptation; a child requires more and more stimuli to obtain the desired dopamine release, along with further impairments of decision-making. It also leads to reward-seeking. These consequences are the foreseeable results of Defendants' engineering decisions.

180. Moreover, the harm to Plaintiffs is a foreseeable result of Defendants' conduct, as school districts and local governments care for minors on a nearly daily basis and provide critical educational, counseling, mental health, and other social and disciplinary services to minors. Plaintiffs have been required to expend, divert, and increase resources to address the negative impacts of Defendants' conduct and the resulting youth mental health crisis.

181. Defendants' actions have led to a national youth mental health crisis. Notably, the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association have declared a national emergency based on the current state of youth mental health.[192] Moreover, in 2021, the U.S. Surgeon General issued an advisory alerting

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[191] Yaoguo Geng, Jingjing Gu, Jing Wang, Ruiping Zhang. *Smartphone addiction and depression, anxiety: The role of bedtime procrastination and self-control*, Journal of Affective Disorders Vol. 293 415-21 (Oct. 1, 2021), https://doi.org/10.1016/j.jad.2021.06.062; Pu Peng & Yanhui Liao, *Six Addiction Components of Problematic Social Media Use in Relation to Depression, Anxiety, and Stress Symptoms: a Latent Profile Analysis and Network Analysis*, BMC Psychiatry 23, 321 (May 8, 2023), https://doi.org/10.1186/s12888-023-04837-2; Robinson, Bonnette, Howard, Ceballos, Dailey, Lu, & Grimes *Social comparisons, social media addiction, and social interaction: An examination of specific social media behaviors related to major depressive disorder in a millennial population*, Journal of Applied Biobehavioral Research (Jan. 8, 2019), https://doi.org/10.1111/jabr.12158.

[192] Protecting Youth Mental Health, U.S. Surgeon General Advisory (Apr. 11, 2023), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf. 3 AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental Health, Am. Acad. Pediatrics (Oct. 19, 2021), https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aapaacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/.

the public that "[r]ecent national surveys of young people have shown alarming increases in the prevalence of certain mental health challenges" and that "[i]n 2019 one in three high school students and half of female students reported persistent feelings of sadness or hopelessness, an overall increase of 40% from 2009."[193]

182. While Defendants have profited from their design, development, production, operation, promotion, distribution, and marketing of their social media platforms to America's youth, Local Government and School District Plaintiffs have expended significant human and financial resources to address the youth mental health crisis caused by Defendants.

7. Defendants' Encourage Dangerous "Challenges."

183. Encouraging dangerous and destructive "viral" challenges is another harmful ramification of Defendants' addictive design decisions. "Online challenges or dares typically involve people recording themselves doing something difficult, which they share online to encourage others to repeat."[194] These challenges often generate significant engagement—sometimes millions of likes or views—and resulting social rewards to the users who post videos of themselves carrying out the challenges. ByteDance product research has found that the number one most identified reason for teen participation in challenges is "[g]etting views/likes/comments," followed by "[i]mpressing others online."[195] Predictably, a substantial portion of online challenges—created for the purpose of generating social rewards—are very dangerous.

184. For example, the "devious licks" TikTok challenge incentivized youth to post videos of them vandalizing school bathrooms. As a result, soap dispensers were stolen, mirrors broken, and

[193] Protecting Youth Mental Health, U.S. Surgeon General Advisory (Apr. 11, 2023), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf.

[194] TikTok, *Online Challenges*, https://www.tiktok.com/safety/en-us/online-challenges/.

[195] TIKTOK3047MDL-001-00002975. Similarly, ByteDance internal documents have identified "a desire for competition, status, followers, clicks and to push limits" as being reasons young people participate in dangerous challenges. TikTok3047MDL-001-00002375.

sinks ripped off of walls of school bathrooms nationwide.[196] Officials in California's Lucia Mar Unified School District, for example, reported about $7,000 worth of damage from the devious licks challenge.[197] As one researcher observed, the goal of the challenge is not to have the thing that you've stolen from the school, but instead "to have what seems like approval of your peers online. And that's a really powerful incentive for teens."[198]

185. Another common social media challenge is the "Blackout Challenge," which encourages youth to make themselves faint by holding their breath and constricting their chest muscles, or by restricting airflow with a ligature around their neck. This challenge is dangerous because, should the participant fail to remove the ligature around their neck prior to fainting, they may strangle themselves. Similarly, the "I Killed Myself" challenge involves participants faking their own deaths to record their family members' reactions upon believing their loved one has died. This challenge is dangerous because certain methods of participating can actually kill (or inflict catastrophic injury) on participants. Likewise, the game Russian Roulette—in which a participant loads a revolver with a single bullet, spins the chamber until it falls on a random slot, and then shoots themselves—has taken on new life as a social media challenge.

186. Another challenge, the "devious licks" TikTok challenge, incentivized youth to post videos of them vandalizing school bathrooms. As a result, soap dispensers were stolen, mirrors broken, and sinks ripped off of walls of school bathrooms nationwide.[199] Officials in California's Lucia Mar Unified School District, for example, reported about $7,000 worth of damage from the

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[196] Megan Marples, The 'devious licks' TikTok challenge has students stealing toilets and vandalizing bathrooms, CNN (Sept. 18, 2021), https://www.cnn.com/2021/09/18/health/devious-licks-tiktok-challenge-wellness/index.html; Viral 'devious licks' TikTok challenge encourages kids to steal from school, PBS (Oct. 25, 2021), https://www.pbs.org/newshour/show/viral-devious-licks-tiktok-challenge-encourages-kids-to-steal-from-school.

[197] https://www.npr.org/2021/09/19/1038681786/schools-close-bathrooms-due-to-vandalization-from-tiktok-devious-licks-trend.

[198] *Id.*

[199] https://www.npr.org/2021/09/19/1038681786/schools-close-bathrooms-due-to-vandalization-from-tiktok-devious-licks-trend.

devious licks challenge.[200] As one researcher observed, the goal of the challenge is not to have the thing that you've stolen from the school, but instead to have "what seems like approval of your peers online. And that's a really powerful incentive for teens."[201]

187. These injuries, deaths, and property destruction cause financial harm to the Local Government and School District Plaintiffs who must deal with the injuries and property damage caused by these activities, which are a foreseeable consequence of Defendants' conduct and their addictive platform designs. Addictive products cause injury or death because neuroadaptation causes addicts to use increasingly extreme methods to maintain dopamine levels. That compulsive use of social media would do the same was, at all relevant times, foreseeable, particularly as to young users whose abilities to assess risks, make wise decisions, and regulate their responses to perceived social needs are still developing.

188. Defendants are aware of the foreseeable risks to youth presented by their incentivizing of participation in these dangerous and destructive challenges. As ByteDance internal documents observe, "[y]oung people are more susceptible to copying a dangerous challenge than adults because, developmentally, their ability to weigh up risk and to think beyond the immediate consequences of their actions is not yet fully formed. They are also more likely to take risks, to make impulsive choices, and to overestimate their ability to cope with risk . . . . The ability to understand the finality of death is also not fully fledged."[202]

189. Defendants' platform features have encouraged the viral challenge phenomenon in spite of the fact that their encouragement furthers dangerous challenges themselves and a broader ecosystem in which those dangerous challenges occur.

190. Meta, TikTok, and YouTube use engagement-optimized algorithms to control users' main feeds. Such algorithms spread extreme content as a consequence of its propensity to generate

[200] *Id.*

[201] *Id.*

[202] TikTok3047MDL-001-00002375.

engagement. That design defect foreseeably leads to dangerous challenges spreading easily on these Defendants' platforms. In addition, Meta's algorithms were once structured to triple amplification of posts that used the word "challenge" in a hashtag—which Meta product engineers would later observe was "super high risk" and prompted "#killchallenge" to go viral.[203]

191. Defendants have encouraged challenges in other ways. ByteDance regularly creates overlays and filters that facilitate viral challenges. It offers advertisers the ability to launch Branded Hashtag Challenges and promotes them on user feeds.[204] It boasts that challenges are "geared towards building awareness and engagement," and that "research shows that they can deliver strong results"—i.e., increased return on ad spending — "at every stage of the funnel." This, in turn, generates advertising revenue for ByteDance. ByteDance employees have described challenges as "one of our core features."[205]

192. Snap also promotes viral challenges through Snapchat's Snap Spotlight feature. It gives cash prizes to challenge participants whose challenges receive the most views on Snap Spotlight.[206] It has also created overlays that encourage challenges—such as a Speed Filter, showing how fast a given user was going at the time they took a particular Snap.[207] Other Defendants have also promoted viral challenges based on the recognition that such challenges drive engagement and advertising revenue.

8. Defendants' Conduct Has Harmed School Districts.

193. The widespread and compulsive use of Defendants' platforms has consequences beyond the harm to the minors using the platforms. It has fundamentally changed the learning and

[203] META3047MDL-003-00030070.

[204] TikTok for Business, *Branded Hashtag Challenge: Harness the Power of Participation* (Mar. 16, 2022), https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation.

[205] TikTok3047MDL-001-00000177.

[206] "Snapchat adds 'challenges' with cash prizes to its TikTok competitor," The Verge, Oct. 6, 2021, https://www.theverge.com/2021/10/6/22711632/snapchat-spotlight-challenges-announced-cash-prizes-tiktok.

[207] *See Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1085 (9th Cir. 2021).

teaching environment at Plaintiffs' schools, affecting students, parents, teachers, administrators, coaches, counselors, and other members of Plaintiffs' communities.

194. School districts have been, and continue to be, uniquely harmed by students' compulsive use of, and addiction to, social media. Students' compulsive, problematic use of Defendants' platforms results in significant disruption to schools' operations, greatly frustrates their ability to achieve their mandate of educating students in a safe and healthy environment, and forces school districts to expend or divert significant resources in response.

195. Students' compulsive overuse of Defendants' platforms results in significant disruption to schools' operations, greatly frustrates their ability to achieve their mandate of educating students in a safe and healthy environment, and forces school districts to expend or divert significant resources in response. Addressing the wide range of impacts from students' social media addiction requires a multi-faceted approach that far exceeds school districts' available resources. School districts are forced to divert human and financial resources to address social media-related student behavior or mental health issues, taking away resources from other important school district operations, including teaching.

196. Staff and teachers cannot ignore students who are in crisis and need to support those students, even if this comes at the expense of the educational goals and experience for the larger student body. School campuses are public spaces, and classes and activities are communal experiences. Increases in anxiety, depression, suicidal ideation, and other mental health crises impact both the students suffering from these problems and the other students, teachers, and staff who need to interact with these students.

197. To address this complex issue, school districts must provide significant support for students in crisis and also educate staff, parents, and the community about the dangers presented by Defendants' platforms. Such education includes how to safeguard children from those dangers, and how to support students and families impacted by social media addiction and problematic use. School districts are one of the primary providers of mental health services to youth. Youth addiction to social media platforms diverts time away from the educational mission of school districts and

from other valuable engagement time.

198. A recent report by the American Federation of Teachers, a teachers union representing 1.7 million educators, "details how school districts across the country are experiencing significant burdens as they respond to tech's predatory and prevalent influence in the classroom … ."[208] An article describing the report—titled "Likes vs. Learning: The Real Cost of Social Media for Schools"—commented:

> School districts have mustered significant resources to mitigate in-classroom disruptions and grapple with an increase in depression and suicidal ideation among students, dangerous and disruptive behavior, and bullying and harassment by and directed at students, as well as the popularity of dangerous viral challenges that originate from social media. Notably, the increased attention to tackling tech companies' omnipresent role in children's lives has pulled resources away from the core mission of education.[209]

199. The report itself, published by the American Federation of Teachers, the American Psychological Association, Design It For Us, Fairplay, and ParentsTogether, highlights the impact of students' social media use on the educational environment, noting the "dramatic disruption in the teaching and learning ecosystems of all our nation's schools."[210] The report confirms that "[d]ealing with social-media related issues detracts from the primary mission of our schools, which is to educate our children," and it details the myriad ways in which "[s]chool districts have born increased costs and expenses in response to the impacts of social media."[211]

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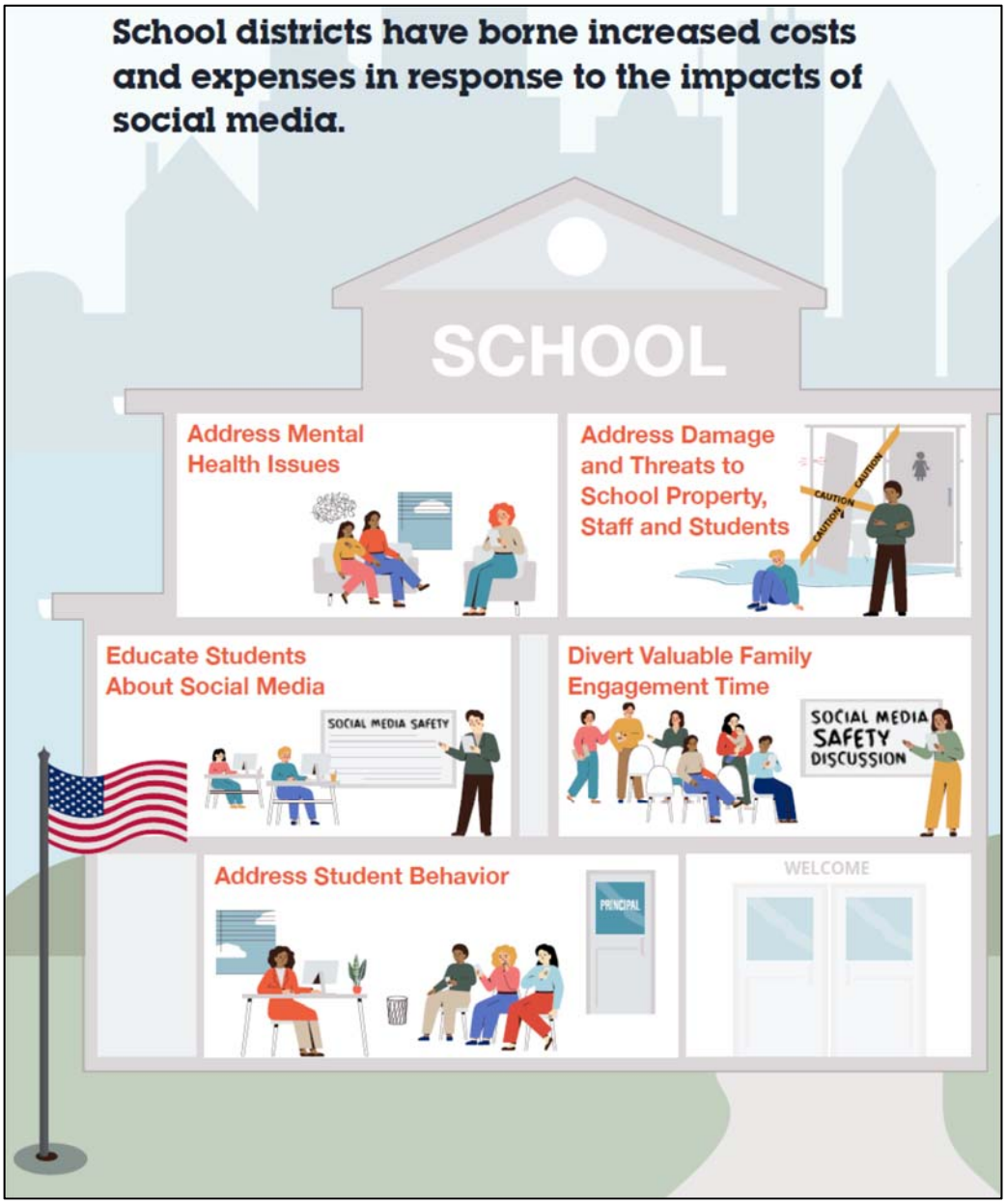
[208] New Report Calls Out Social Media Platforms for Undermining Schools, Increasing Costs, Driving Youth Mental Health Crisis, *American Federation of Teachers* (July 20, 2023), https://www.aft.org/press-release/new-report-calls-out-social-media-platforms-undermining-schools-increasing-costs.

[209] *Id*.

[210] *Likes vs. Learning: The Real Cost of Social Media for Schools*, American Federation of Teachers et al., (July 2023), https://www.aft.org/sites/default/files/media/documents/2023/LikesVSLearning_Report.pdf.

[211] *Id*.



200. Schools are one of the main providers for mental health services for school-aged children.[212] Indeed, over 3.1 million children ages 12–17 received mental health services through an education setting in 2020, more than any other non-specialty mental health service setting.[213]

[212] *National Survey on Drug Use and Health*, SAMHSA (2019 & 1st & 4th Qs. 2020), https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables [https://perma.cc/NA32-JYQX].

[213] *Id.*

201. Most schools offer mental health services to students. In the 2021–22 school year, 96% of public schools reported offering at least one type of mental health service to their students.[214] But 88% of public schools did not strongly agree that they could effectively provide mental health services to all students in need.[215] The most common barriers to providing effective mental health services in public schools are (1) insufficient number of mental health professionals; (2) inadequate access to licensed mental health professionals; and (3) inadequate funding.[216] Student opinions also reflect that schools are unable to provide adequate mental health services. Less than a quarter of students in grades 6–12 report accessing counseling or psychological services when they are upset, stressed, or having a problem.[217] And, of the students who access mental health services, only 41% of middle schoolers and 36% of high schoolers are satisfied with the services they receive.[218]

202. In part, schools are struggling to provide adequate mental health services because of the increase in students seeking these services. More than two-thirds of public schools reported an increase in the percent of students seeking mental health services from school since the start of the pandemic.[219]

203. During this same period, adolescents increased their social media use, also raising

[214] *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022), https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp [https://perma.cc/P4K9-4HF7].

[215] *Id.*

[216] *Id.*

[217] *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2, YouthTruth (2022), https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf [https://perma.cc/UHV7-RNQ6].

[218] *Id.*

[219] *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022), https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp [https://perma.cc/P4K9-4HF7].

levels of excessive and problematic use of digital media.[220] And these higher rates of social media use are related to higher "ill-being."[221] Thus, the increase in adolescent social media use during the pandemic has caused an increase in adolescents experiencing mental health problems.

204. That relationship is reflected in reports from public schools. Over 75% of public schools reported an increase in staff expressing concerns about student depression, anxiety, and other disturbances since the start of the pandemic.[222] Students receiving mental health services in educational settings predominately do so because they "[f]elt depressed," "[t]hought about killing [themselves] or tried to" or "[f]elt very afraid and tense."[223]

205. Anxiety disorders are also up, affecting 31.9% of adolescents between 13 and 18 years old.[224] "Research shows that untreated teenagers with anxiety disorders are at higher risk to perform poorly in school, miss out on important social experiences, and engage in substance abuse."[225]

206. According to the National Alliance on Mental Illness, "[s]tudents ages 6–17 with mental, emotional or behavioral concerns are **3x times more likely** to repeat a grade," and "[h]igh school students with significant symptoms of depression are more than **twice as likely** to drop out

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[220] Laura Marciano *et al.*, *Digital Media Use and Adolescents' Mental Health During the Covid-19 Pandemic: A Systematic Review and Meta-Analysis*, Frontiers Pub. Health (Feb. 2022), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8848548/ [https://perma.cc/3ZSA-UBDF].

[221] *Id.*

[222] *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022), https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp [https://perma.cc/P4K9-4HF7].

[223] Rachel N. Lipari *et al.*, *Adolescent Mental Health Service Use and Reasons for Using Services in Specialty, Educational, and General Medical Settings*, SAMHSA (May 5, 2016), https://www.samhsa.gov/data/sites/default/files/report_1973/ShortReport-1973.html [https://perma.cc/X4YF-ZAB7].

[224] *Anxiety Disorders: Facts and* Statistics, Anxiety & Depression Ass'n Am., https://adaa.org/understanding-anxiety/facts-statistics [https://perma.cc/EBF6-CXBF] (last visited June 26, 2023).

[225] *Id.*

compared to their peers."[226]

207. Schools are struggling not only to provide students with mental health services but also to deliver an adequate education because of the youth mental health crisis. Students in grades 6–12 identify depression, stress, and anxiety as the most prevalent obstacles to learning.[227] These negative mental health outcomes are also the most common symptoms of excessive social media use. Most middle school and high school students also fail to get enough sleep on school nights, which contributes to poor academic performance.[228] Compulsive social media use is linked to reduced sleep time and quality.[229] Social media use also contributes to poor academic performance

[226] *Mental Health By the Numbers*, Nat'l All. Mental Health (June 2022), https://www.nami.org/mhstats [https://perma.cc/DNB4-SA2R] (citing *2018-2019 National Survey of Children's Health*, Data Res. Ctr. Child & Adolescent Health, Child and Adolescent Health Measurement Initiative, https://www.childhealthdata.org/browse/survey/results?q=7839&r=1&g=812 [https://perma.cc/Y5ZQ-4XQN] (last visited June 26, 2023)); and Véronique Dupèrè *et al.*, *Revisiting the Link Between Depression Symptoms and High School Dropout: Timing of Exposure Matters*, J. Adolescent Health 62 (2018) 2015-211 (Sept. 24, 2017), https://www.jahonline.org/article/S1054-139X(17)30491-3/fulltext [https://doi.org/10.1016/j.jadohealth.2017.09.024].

[227] *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2–3, YouthTruth (2022), https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf [https://perma.cc/UHV7-RNQ6].

[228] Anne G. Wheaton *et al.*, *Short Sleep Duration Among Middle School and High School Students-United States, 2015*, 67(3) Morbidity & Mortality Wkly. Rpt. 85–90 (Jan. 26, 2018), http://dx.doi.org/10.15585/mmwr.mm6703a1 [https://perma.cc/873Q-D5PC].

[229] Ajay M. Bhandarkar, *Impact of social media on the academic performance of undergraduate medical students*, Med. J. Armed Forces India 77 (Suppl. 1) S37-41 (Feb. 2 2021), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7873710/ (citing Karpinski A.C., Kirschner P.A., Ozer I., Mellott J.A., Ochwo P. *An exploration of social networking site use, multitasking, and academic performance among United States and European university students*, Comput Hum. Behav. 2013 May 1;29(3):1182–1192; Azizi S.M., Soroush A., Khatony A. *The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study*, BMC Psychol. 2019 May 3;7(1):28, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6500070/; *see* Yubo Hou et al, *Social Media Addiction: Its Impact, Mediation, and Intervention*, Cyberpsychology: Journal of Psychosocial Research on Cyberspace 13(1) Article 4, https://www.researchgate.net/profile/Lili-Song-15/publication/331294811_Social_media_addiction_Its_impact_mediation_and_intervention/links/

by distracting students during class or study time and causing procrastination on school assignments. Accordingly, Defendants' conduct has also undermined students' rights to public education and undermined school districts' ability to provide students with a safe and high-quality public education.

208. The youth mental health crisis has also caused a wide range of other behavioral issues among students that interfere with schools' ability to teach. In 2022, 61% of public schools saw an increase in classroom disruptions from student misconduct compared to school years before the pandemic.[230] In that same year, 58% of public schools also saw an increase in rowdiness outside of the classroom, 68% saw increases in tardiness, 27% saw increases in students skipping classes, 55% saw increases in the use of electronic devices when not permitted, 39% saw an increase in physical fights between students, and 46% saw an increase in threats of fights between students.[231]

209. Further exacerbating schools' struggles to teach is that students are skipping school. Indeed, student absenteeism has greatly increased as the youth mental health crisis has intensified as a result of youth addiction to social media platforms. In the 2021–22 school year, 39% of public schools experienced an increase in chronic student absenteeism compared to the 2020–21 school year, and 72% of public schools saw increased chronic student absenteeism compared to school years before the pandemic.[232] Vandalism also increased in 2022, with 36% of public schools reporting increased acts of student vandalism on school property.[233] Schools have seen a rise in vandalism of school property coinciding with the youth mental health crisis that Defendants' platforms have been a substantial factor in causing—particularly given that specific aspects of the

5cd0dd5c92851c4eab87db46/Social-media-addiction-Its-impact-mediation-and-intervention.pdf?_sg%5B0%5D=started_experiment_milestone&origin=journalDetail.

[230] *2022 School Pulse Panel*, U.S. Dep't Educ., Inst. Educ. Sci. (2022), https://ies.ed.gov/schoolsurvey/spp/ [https://perma.cc/364R-H5U4].

[231] *Id.*

[232] *Id.*

[233] *Id.*

platforms encourage users to participate in attention-seeking behaviors that have led to damage of school property.

210. Further, social media distraction "moderates the relationship between students' cognitive engagement and their evaluation of teaching faculty."[234] Social media distractions "disrupt student engagement inside the classroom," leading to wrong or biased assessments of a teacher's performance while also exacerbating struggles with academic achievement.[235] Declines in academic performance can affect school district funding, governmental review metrics, and teacher reviews, in addition to taxing students' mental health. These issues and others stemming from students' social media use, discussed above, also drive declining teacher and staff morale, making retaining and hiring qualified staff more difficult for school districts.[236]

211. School districts have contacted one or more of Defendants and asked for assistance relating to problems caused by Defendants' platforms and often received inadequate responses or no response at all.[237] For example, Meta reported internally that a middle school in Oakland asked Facebook to implement a "hotline in which real people could help school officials (deans of

[234] Priyanka Nema, *Impact of social media distraction on student evaluation of teacher effectiveness*, International Journal of Education Management (March 22, 2023), https://www.emerald.com/insight/content/doi/10.1108/IJEM-10-2022-0389/full/html.

[235] *Id.*; Teun Sivers, *Social Media and Distraction: An Experience Sampling Study among Adolescents*, Medical Psychology, Vol. 25, Issue 3 (August 23, 2021), https://www.tandfonline.com/doi/full/10.1080/15213269.2021.1959350; Jia-Qiong Xie, *The association between excessive social media use and distraction: An eye movement tracking study*. As a Facebook employee recognized, "lots of cross-sectional studies that can't tell whether teens feel like their time on their phones causes worse mental health / problems in school or whether their mental health and feelings about school drive them to spend more time on their phones. It's probably both." META3047MDL-003-00096266.

[236] *See* Ruiz, Rebecca, *How social media in the classroom is burning teachers out*, Mashable (Sept. 16, 2023) (teacher noting feeling "burnt out and demoralized" trying to deal with "tectonic shifts in classroom behavior" from students' social media use and "rank[ing] the issue among the top factors contributing to teacher burnout in her educator community; "the emotional and mental strain on teachers managing this problem won't lessen until the technology driving it changes").

[237] *See Likes vs. Learning*, supra n.209 ("it is nearly impossible to get a timely response from a platform when there is a social media-enabled crisis").

discipline, administrators, teachers leaders" solve problems being caused by social media, but that it would "[p]robably not [be] cheap."[238] Another Meta employee noted they had been "having a lot of conversations lately with Principals at schools and school districts."[239]

212. Some of the costs and resource expenditures of school districts forced to address students' problematic social media use include, but are not limited to:

a. Expending, diverting, and increasing resources and increasing staff time to confiscate cell phones and other devices;

b. Hiring additional counselors, staff, and personnel in response to increased mental health and behavioral issues caused by students' social media use;

c. Expending, diverting, and increasing resources to repair property damaged as a result of students' addiction to social media and compulsive participation in social media challenges that direct destruction or theft of school property;

d. Expending, diverting, and increasing resources to repair property damaged as a result of students acting out because of mental, social, and emotional problems Defendants' conduct caused;

e. Expending, diverting, and increasing time and resources, and increasing staff, to communicate and engage with parents and guardians of students regarding youth mental health, behavioral issues, and attendance problems;

f. Expending, diverting, and increasing resources to investigate and respond to threats made against schools and students over social media that are pushed by Defendants' platforms to drive user engagement;

g. Expending, diverting and increasing resources to add additional information technology resources in an attempt limit students' access to social media platforms and mitigate risks posed by students' social media use;

h. Investing in physical barriers (such as magnetic pouches) to keep students from accessing social media platforms on school property;

i. Developing new and revised teaching plans to address students' altered learning habits, e.g., reduced attention span, inability to communicate effectively;

[238] META3047MDL-003-00047518.

[239] META3047MDL-003-00021695.

j. Providing additional learning support to address students' declining achievement, e.g., after school support, as a result of the negative impact of problematic social media use on students' ability and capacity to learn;

k. Hiring additional mental health personnel (41% of public schools added staff to focus on student mental health);[240]

l. Expending and diverting resources and increasing staff to address student discipline issues caused by Defendants' attracting and addicting students to their social media platforms;

m. Expending, diverting and increasing resources for modifications to mental health curricula;

n. Expending, diverting, and increasing resources to create education materials for youth, parents, and staff addressing social media addiction and harm;

o. Expending and diverting time and resources, and increasing staff, to route students and youth to counselors and mental health service providers;

p. Expending, diverting, and increasing resources to develop additional mental health resources (46% of public schools created or expanded mental health programs for students, 27% added student classes on social, emotional, and mental health and 25% offered guest speakers for students on mental health);[241]

q. Training teachers to help students with their mental health and expending, and diverting time and resources to increase staff and train staff to identify students and youth exhibiting symptoms of mental health issues (56% of public schools offered professional development to teachers on helping students with mental health);[242]

r. Expending, diverting, and increasing resources to update student handbooks and similar materials to address use of Defendants' platforms; and,

s. Expending, diverting, and increasing resources to update school policies to address use of Defendants' platforms.

213. Defendants knew their actions were having a serious impact on school districts and

[240] *Id.*

[241] *Id.*

[242] *Id.*

have nonetheless refused to change their conduct.[243]

214. This impact on schools is no surprise. Defendants have deliberately targeted school-aged children, while knowing the impact this could have on schools. In fact, Defendants counted on use of their addictive platforms spreading through entire school communities. For example, Meta set out to infiltrate schools specifically, noting in a presentation reviewed by Mark Zuckerberg himself that "[h]igh school is the key driver of U.S. teen social activity and occupied 6+ hours per day."[244] Meta knew that getting into high schools was key, reporting that "[r]esearch indicates that we have 'FB' and 'non-FB' high schools; tipping schools may be high impact" and "[i]n the United States, per-high school adoption is a crucial driver of teen Facebook engagement."[245] For example, Meta conducted a school analysis and concluded that "'FB High Schools' (>75% adoption) have . . . 22% more TS [Time Spent] per MAP [Monthly Active Person] . . . compared to high schools with 5-30% FB adoption."[246] As a result of this research, Meta set out to make a "big 2017 bet" on "high school communities" to attract "teens."[247] The goal of this work was to "[g]row MAP [Monthly Active Person/People], DAP [Daily Active Person/People], and time spent among U.S. teens."[248]

215. Meta adopted similar policies for Instagram, noting that "[n]early everyone attends high school" and "the school someone attends is a big part of their life."[249] In their own words, "[w]inning schools is the way to win with teens because an individual teen's engagement is highly correlated with school MAP [Monthly Active Person] penetration."[250] The Instagram "teen's team"

[243] *See, e.g.*, META3047MDL-003-00084526 ("More than half of U.S. school principals say they're extremely concerned about children's use of social media outside of school").

[244] META3047MDL-003-00134688.

[245] *Id.*

[246] *Id.*

[247] *Id.*

[248] *Id.*

[249] META3047MDL-003-00023595.

[250] *Id.*

also discussed how to study "teen penetration and engagement on [a] school level in [the] US" and noted their capability to tell when teens "open the app AT school" and geolocate "which high school they go to."[251]

216. Instagram also intentionally reached into schools by partnering with the National PTA and Scholastic to get materials into the hands of "parents, grandparents, and educators at scale," and to "integrate [their] parent's guide and IG programming into the 500 back to school nights" across the country.[252] Instagram reported that partnering with "Scholastic gives us the ability to win educators and the school community, creating a ripple effect to allow us to win parents and families" and lets them reach out to "20,000 classrooms across the U.S." and to "250K+" teachers.[253] While Instagram may try to characterize this work as helpful to addressing youth mental health problems, they were more candid in other documents about using this as a strategy to get more teen users, explaining that the goal of the parents plan was to get "parents to think, my kids are on social media, and my FAVORITE app for them to be on is Instagram, bar none." Thus, "[w]hat winning looks like" for Instagram is to have "[p]arents believe Instagram is the social media platform of choice for their kids."[254] Instagram also tested new features by high school, noting that "getting critical mass in a high school very quickly (*e.g.* in the same afternoon) is extremely important," and one way to do this was "a (hacky) way to use push notifications from their IG [Instagram] account to tell students 'we just shipped this for your school.'"[255] They explained "[w]e want to learn as much as we can from these High School tests about what levers we have for driving teen engagement."[256]

217. Schools are so important to Meta because "[e]ngaging the vast majority of teens in an

[251] META3047MDL-003-00022355.

[252] META3047MDL-003-00084526.

[253] *Id.*

[254] META3047MDL-003-00082536.

[255] META3047MDL-003-00138616.

[256] *Id.*

area / school with our products is crucial to driving overall time spent in the same area."[257] Meta boiled it down to a simple message: "Winning Teens = Winning High Schools."[258]

218. TikTok is likewise well aware of school-age children using its platform. When TikTok decides to age-verify youth users, one of the tools it uses is "school ID."[259] TikTok created and shared a chart with its staff showing how age correlated to grade in school and birth year:[260]

AGE	GRADE	Birth Year
8 yrs	3rd	2012-2013
9 yrs	4th	2011-2012
10 yrs	5th	2010-2011
11 yrs	6th	2009-2010
12 yrs	7th	2008-2009
13 yrs	8th	2007-2008
14 yrs	9th	2006-2007
15 yrs	10th	2005-2006
16 yrs	11th	2004-2005
17 yrs	12th	2003-2004

219. TikTok also admits that its platform "is particularly popular with younger users, who are seen as more vulnerable to online harms and the negative impacts of compulsive use."[261] Internal research confirmed that users try to "mitigate TikTok's interference with their obligations and productivity," including "school."[262] However, the same research noted that the "aspects of TikTok that contributed to participants' challenges with managing their time including the continuous scroll, few or no breaks between content, short videos, and not knowing what the next video will be," the

[257] META3047MDL-003-00021467.

[258] META3047MDL-003-00023583.

[259] TIKTOK3047MDL-001-00060190.

[260] *Id.*

[261] TIKTOK3047MDL-001-00061318.

[262] *Id.*

same types of features at issue in this complaint.[263]

220. TikTok acknowledged that users believe its "platform is addictive," and that "compulsive usage interferes with essential personal responsibilities" such as "sufficient sleep," "school responsibilities," and "connecting with loved ones."[264] TikTok admitted that it is interfering with the school day and student sleep, stating "we send notifications to users during the school day and in some cases, up until midnight which could interfere with sleep."[265] Therefore, it stated "[w]e should therefore be prepared to implement product changes to address concerns in [the wellbeing] area if needed, including . . . [a]voiding sending users push notifications around bedtime and (for younger users) during the school day."[266]

221. TikTok also sought to directly enter schools, noting that "we have about 80 high schools across the country" that it would be sending its TikTok toolkit for "back to school nights," and that it was "coordinating with the Department of Education and they plan to send a PDF of the toolkit in their August newsletter, which is going out on Friday to nearly 30K subscribers."[267] As with Meta, TikTok recognized the importance of controlling the narrative, noting in a different document that recent years had been "fraught with PR and GR [Government Relations] issues for ByteDance and TikTok," which "reduced advertiser trust, user loyalty, investor confidence, and [TikTok's] ability to consistently hire top talent." Combating these issues would "ensure the long term success of the ByteDance ecosystem and help further [the TikTok] brand."[268]

222. Similarly, a large part of Snapchat's success has been its virality on school

[263] *Id.*

[264] TIKTOK3047MDL-001-00060485.

[265] TIKTOK3047MDL-001-00061318.

[266] *Id.*

[267] TIKTOK3047MDL-001-00005239.

[268] TIKTOK3047MDL-001-00060485.

campuses.[269] According to an interview regarding Snapchats' early adoption, "the app started catching on with high schoolers in LA as they could send digital notes back and forth during classes."[270] Snapchat "grew very quickly in tight-knit communities at high schools and colleges, where students interact at a very high frequency and can (and did) tell each other to download Snapchat in between classes."[271] Once Snapchat knew it had appeal among school-aged children, Snapchat "ran with it and never looked back."[272]

223. Snapchat has long been aware of its connection to schools and the large impact it has had on classrooms. After Snapchat added new features to the app, news organizations noted the havoc it was wrecking on classrooms: "No one was more excited about the update than Snapchat's target demographic: teens. And no one could have used a warning about the huge in-app changes more than high-school teachers," one of whom noted that "[i]n 16 years of teaching I can't think of anything that has ever disrupted my classroom more than today's Snapchat update."[273] The teacher explained that during class kids were so focused on updating their Snapchat, "you would have thought it was crack. They seriously could not keep away from it. I even had one girl crawl under the table with her phone."[274]

[269] https://www.forbes.com/sites/quora/2018/02/16/how-snapchat-gained-success-by-going-viral-at-high-schools-across-los-angeles/?sh=6f1676083b36.

[270] *Id.*

[271] *Id.*

[272] *Id.*

[273] https://www.businessinsider.com/high-school-teacher-on-snapchat-update-2014-5.

[274] *Id.*

224. Snapchat also highlights its connection to schools when communicating with advertisers, promoting "Back to School on Snapchat" and "Snap to School."[275] The company explained that it had an "unparalleled student and parent audience"[276] and noted that 90% of students (ages 13-24) in the US and UK are on Snapchat.[277] Last year, Snapchat promoted new features and the ability to access Snapchat from a desktop computer, not just a phone, "just in time for back to school" to let students "keep conversations with friends going from any device," underscoring the importance of student users and further emphasizing Snapchat's desire to maximize user engagement, i.e., continuous interaction with the platform, by this key group.[278]

225. Similarly, YouTube is well aware of both its high levels of use by school age children and the impact on schools. YouTube is the most popular social media platform with students. Ninety-five percent of children ages 13–17 have used YouTube.[279] Seventy-seven percent of teens report using YouTube every day, and nearly 20% of teens report using YouTube almost constantly,

[275] *See, e.g.*, https://forbusiness.snapchat.com/back-to-school-2021.

[276] https://forbusiness.snapchat.com/back-school.

[277] *See, e.g.*, https://forbusiness.snapchat.com/back-to-school-2021.

[278] https://newsroom.snap.com/fresh-fall-features.

[279] Emily Vogels *et al.*, *Teens, Social Media and Technology 2022, Pew Rsch. Ctr.* (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/ [https://perma.cc/BH7W-ZUPM].

the most of any of Defendants' platforms.[280]

226. YouTube has also advertised itself for use in schools, creating YouTube.com/Teachers, which provides "tips and tricks for bringing YouTube into the classroom."[281]

227. YouTube has leveraged its popularity among school children to increase its revenue from advertisements by marketing its platform to popular brands of children's products. For example, Google pitched Mattel, the maker of Barbie and other popular kids' toys, by telling its executives that "YouTube is today's leader in reaching children age 6–11 against top TV channels."[282] When presenting to Hasbro, the maker of Play-Doh, My Little Pony, and other kids' toys, Google touted that "YouTube was unanimously voted as the favorite website for kids 2-12," and that "93% of tweens visit YouTube to watch videos."[283] In a different presentation to Hasbro, YouTube was referred to as "the "#1 website regularly visited by kids."[284]

228. Compulsive use of YouTube by school children is causing serious problems for students and school districts, as students struggle with their mental health, become sleep-deprived, and act out. Public reporting has confirmed that students are "glued to the[ir] devices during class — posting on social media [and] searching YouTube."[285] As a result, school districts across the country have been imposing bans on the cellphones used to access Defendants' platforms to attempt to "to curb student obsession, learning disruption, disciplinary incidents and mental health worries."[286]

229. School District Plaintiffs have expended significant resources addressing student

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[280] *Id.*

[281] https://www.youtube.com/Teachers.

[282] Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, Exhibit A, *FTC v. Google LLC* et al., No. 1-19-cv-02642-BAH (D.D.C. Sept. 4, 2019), ECF No. 1-1.

[283] *Id.* at Exhibit B.

[284] *Id.* at Exhibit C.

[285] https://www.washingtonpost.com/education/2023/05/09/school-cellphone-ban-yondr/.

[286] *Id.*

social media use and addiction.

230. Each of these steps taken by School District Plaintiffs' staff and administrators detracts from School District Plaintiffs' core educational mission and the public service they provide, siphoning much-needed resources.

231. Ultimately, School District Plaintiffs require significant and long-term funding to address the nuisance Defendants have created and contributed to. School District Plaintiffs cannot ignore the ever-increasing behavioral and mental health needs of their students, even if this means diverting resources away from important school functions and lessening the educational experience for all students and their families. Such funding should not come at the expense of the students and fall at the feet of the public. Rather, Defendants must bear the burden of remedying their wrongs. It is time, as President Biden declared, to get "all Americans the mental health services they need"[287] and "hold social media companies accountable[.]"[288]

9. Defendants' Conduct Has Harmed Local Governments.

232. Defendants' platforms have also placed severe burdens and financial strains on local governments.

233. These governments have been tasked with addressing the surge in mental, emotional, and social issues among youth in their communities due to Defendants' conduct. Minors in Local Government Plaintiffs' communities confront mental health issues now more than ever due to their excessive social media usage.

234. As social media addiction causes and exacerbates young people's mental health disorders, Local Government Plaintiffs serve as first responders, providing youth mental health services. These governments have been overburdened by the increase in youth mental health issues caused by social media addiction.

[287] President Biden, State of the Union Address (Mar. 1, 2022) (transcript https://www.whitehouse.gov/state-of-the-union-2022/).

[288] President Biden, State of the Union Address (Feb. 7, 2023) (transcript https://www.whitehouse.gov/state-of-the-union-2023/).

235. Local Government Plaintiffs fund and operate numerous services to address youth mental health and behavioral disorders, which are being strained and require additional financial and human resources due to minors' compulsive social media use and addiction and the attendant youth mental health crisis caused by Defendants. Examples of services provided include planning, funding, and monitoring mental health services provided to children and adolescents within Local Government Plaintiffs' communities.

236. Many local governments, such as Providence, Rhode Island, also assist with school funding, and therefore suffered financial harm similar to that borne by the school districts.

237. Many Local Government Plaintiffs also operate community behavioral health centers, which provide services such as mental health assessment, blended case management, administrative case management, treatment, and medication management. These services are overburdened by the youth mental health crisis caused by Defendants.

238. Many Local Government Plaintiffs offer community-based medical services, such as outpatient therapy, behavior health services, therapeutic after-school programs, partial hospital services, and inpatient services in a hospital setting. Some municipal and county governments also offer inpatient psychiatric services for children and adolescents who have exhausted community-based services. These services are overburdened by the youth mental health crisis caused by Defendants.

239. Many Local Government Plaintiffs offer special services to support school children within their borders, with programs designed to meet the mental health needs of minors. Such programs may include psychological services, social work, counseling services, bullying prevention programs, and/or crisis response teams. These services are overburdened by the youth mental health crisis caused by Defendants.

240. Some Local Government Plaintiffs have worked with children's hospitals and other organizations to create programs to create mental health programs for students and other youth within their communities. The youth mental health crisis caused by compulsive use of and addiction to Defendants' social media programs has created or enhanced the need for such programs. As one

example, Montgomery County (Pennsylvania) announced a $7.2 million initiative to "develop a sustainable infrastructure for school-based mental health programs and services."[289] The project aims to "expand suicide awareness training opportunities for students (K-12), implement a universal mental health screener to be utilized by school district or nonpublic school staff members and create an electronic data system to connect school mental health practitioners (*e.g.,* psychologists, social workers and counselors) with community-based mental health providers that have immediate availability to support students in all levels of care (outpatient therapy to inpatient psychiatric care)."[290]

241. Local Government Plaintiffs have also dealt with cleaning up and repairing property damage to public property caused by young people burdened by mental health issues caused by Defendants.

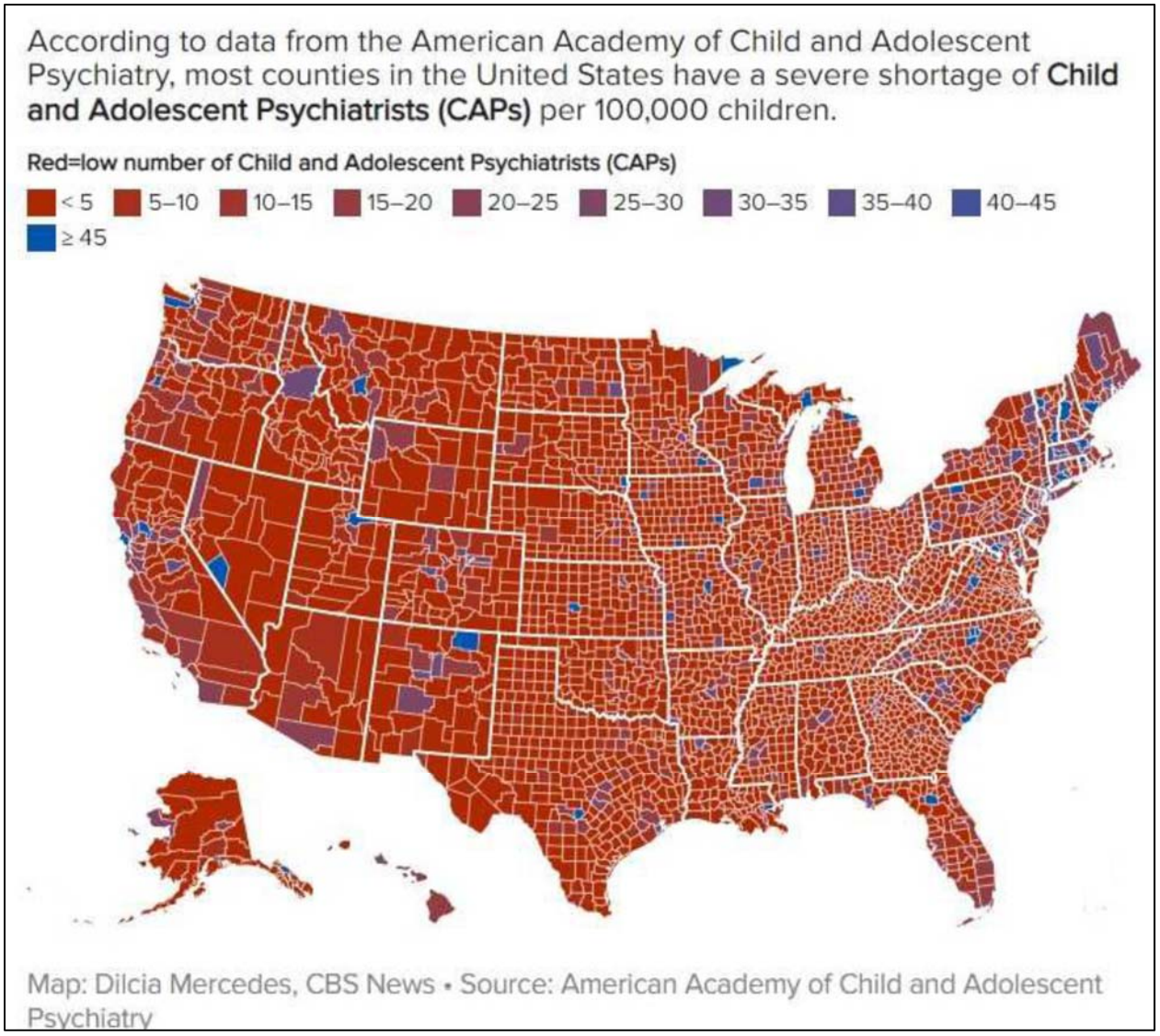
242. Local Government Plaintiffs do not have sufficient funding or mental health staff to address today's youth mental health crisis. They are struggling to provide children and adolescents within their communities with adequate mental health services and are forced to expend additional financial and human resources because of the youth mental health crisis driven by addiction to Defendants' social media platforms.

243. Some Local Government Plaintiffs have used their own funds to establish child and adolescent behavioral health services available to students, to address the unprecedented need for these services in response to the mental health crisis fueled by compulsive use of and addiction to Defendants' social media platforms.

244. Local governments communities and schools do not have sufficient funding or mental health staff to address today's youth mental health crisis. As shown in the chart below, there is a nationwide shortage of child and adolescent psychiatrists:

[289] *$7.2 Million Grant to Help Provide Mental Health Services to Montgomery County Students*, Mercury (Jan. 20, 2023, 4:09 P.M.), https://www.pottsmerc.com/2023/01/20/7-2-million-grant-to-help-provide-mental-health-services-to-montgomery-county-students/

[290] *Id.*



245. Because of this shortage of psychiatrists and the extent of the youth mental health crisis fueled by social media addiction, the number of teens and adolescents waiting in emergency rooms for mental health treatment for suicide nationwide tripled from 2019 to 2021.[291]

246. To address the decline in minors' mental, emotional, and social health and resulting misconduct, Local Government Plaintiffs have been forced to expend critical and limited financial resources that would otherwise be used to deliver education and other community services.

[291] Stephen Stock et al., *Children languish in emergency rooms awaiting mental health care*, CBS News (Feb. 27, 2023, 8:02 am), https://www.cbsnews.com/news/emergency-rooms-children-mental-health/.

247. Local Government Plaintiffs need additional funding to address the mental health crisis and nuisance Defendants have created by fostering social media addiction among youth nationwide, which they continue to exacerbate with their design of their social media platforms.

248. Local Government Plaintiffs have borne increased costs in response to the youth mental health crisis caused and/or contributed to by Defendants, including but not limited to costs associated with:

a. Expending, diverting, and increasing human and financial resources (including tax dollars) to provide additional mental health resources to minors;

b. Hiring additional counselors, staff, and personnel for mental health and disciplinary services;

c. Expending and diverting resources, and increasing staff to address youth discipline issues caused by the mental health crisis;

d. Expending and diverting time and resources, and increasing staff, to route youth to counselors and mental health service providers;

e. Expending and diverting time and resources, and increasing staff to train staff to identify exhibiting symptoms of mental health issues;

f. Expending, diverting, and increasing resources for creating education materials for youth, parents, and staff addressing social media addiction and harm;

g. Expending, diverting, and increasing resources to investigate and prosecute crimes that result from use of Defendants' platforms and the youth mental health crisis;

h. Expending, diverting, and increasing resources to investigate threats made against schools, students, and members of the community over social media;

i. Expending, diverting, and increasing resources to account for the strain placed on local government's departments of health and human services;

j. Expending, diverting, and increasing resources to account for the strain placed on local government's community-based services such as outpatient therapy, behavioral health services, after school programs, and other similar services and programming; and,

k. Expending, diverting, and increasing resources to repair property damage as a result of Defendants' addictive platforms targeted to attract and addict minors.

249. This need for expanded resources to provide mental health services to young people has been directly caused by the mental health crisis among youth fueled by Defendants as local communities have been tasked with addressing the surge in mental, emotional, and social issues among this population. Local Government Plaintiffs' young residents confront mental health issues now more than ever due to their excessive social media usage.

250. Local Government Plaintiffs have borne the cost of the increased need for youth mental health services caused by Defendants. To address the decline in minors' mental, emotional, and social health, and resulting misconduct, Local Government Plaintiffs have been forced to expend resources that would otherwise be used to deliver education and other community services.

251. Local Government Plaintiffs require funding to address the mental health crisis that Defendants have created and continue to exacerbate with their design of, and engineered addiction to, their social media platforms.

10. Defendants could have avoided harming Local Government and School District Plaintiffs.

252. Each Defendant solicited youth on the open market and encouraged the compulsive use of their addictive platforms.

253. Each Defendant offers its platform to the public with dangerous, standardized features and designs (discussed herein) that users cannot change.

254. Young people within the Plaintiffs' schools and communities (along with millions of other U.S. users) are incredibly valuable to Defendants. Although Defendants' platforms are ostensibly free of charge, in reality, Defendants charge users by collecting their data, which they then leverage into advertising revenue. For example, Instagram's terms of use state, in part:

> We agree to provide you with the Instagram Service. . . . Instead of paying to use Instagram, by using the Service covered by these Terms, you acknowledge that we can show you ads that businesses and organizations pay us to promote on and off the Meta Company Products. We use your

> personal data, such as information about your activity and interests, to show you ads that are more relevant to you.[292]

255. Each Defendant knew or should have known that its platforms were causing serious harm, and negative impacts on public schools and other local government entities.

256. Each Defendant could have, but purposefully failed to, design its platforms to protect and avoid injury to kids and adolescent users and avoid harm to Local Government and School District Plaintiffs' operations.

257. Each Defendant knew or should have known that adolescents' developing brains leave them relatively less able to delay gratification, control impulses, or resist immediately pleasurable social rewards.

258. Each Defendant knew or should have known that the more children use social media, the harder it is for them to quit.

259. Each Defendant knew or should have known that excessive use of its platforms has severe and wide-ranging effects on youth mental and physical health.

260. Each Defendant knew or should have known that youth are especially vulnerable to long-term harm from its addictive platforms.

261. Each Defendant knew or should have known that many of its users are under the age of 13, despite the limitations set out in COPPA.

262. Each Defendant knew or should have known its conduct would harm Local Government and School District Plaintiffs, as Plaintiffs are on the front lines of providing education and mental health and social services to minors.

[292] The other defendants have similar provisions. For example, TikTok Terms of Service state, in part: "You acknowledge that we may generate revenues, increase goodwill or otherwise increase our value from your use of the Services, including … through the sale of usage data…." Snap Terms of Service permit Snap to use content submitted by users for any purpose, including revenue generating purposes, and acknowledge Snap leverages the collection of user data to sell advertising. YouTube's Terms of Service similarly permit YouTube to use content uploaded by users for business purposes, including monetization of that content, and Google's Privacy Policy (applicable to YouTube) details the wide range on user data Google collects, whether you are a registered user or not.

263. Each Defendant knew or should have known that the harm caused by permitting minors onto their platforms would lead to serious mental health issues for children exposed to these platforms, which are dangerous for their developing minds because of the ways that Defendants design, develop, produce, and operate their social media platforms. Further, Defendants knew or should have known that Local Government and School District Plaintiffs would be required to spend their financial and human resources to address the fallout of Defendants' attracting and addicting minors to their platforms.

264. The harm to Plaintiffs caused by Defendants' actions was foreseeable. Defendants purposefully sought to attract and addict minors—who attend Plaintiffs' schools and reside in Plaintiffs' communities—to their social media platforms and engaged in substantial efforts to promote, distribute and market their social media platforms to minors, despite knowing that their design choices made the social media platforms incredibly dangerous to adolescents. Moreover, while deliberately seeking to attract and addict minors to their platforms, Defendants were aware that school districts and local communities—both of which provide adolescents with critical educational, counseling, mental health, social, and disciplinary services—would be forced to address, through financial and human resources, the devastating impact compulsive social media use and addiction is known to have on youth mental health. Accordingly, Plaintiffs were in the foreseeable zone of risk from Defendants' targeting of minors who reside in Plaintiffs' local communities and attend Plaintiffs' schools.

265. Despite all that, each Defendant failed to adequately warn youth, their parents, and Plaintiffs of the known risks and harms of using its platforms. Each Defendant avoided design changes that would have increased youth safety. And, each Defendant pressed ahead with changes designed to keep kids hooked, even though they knew or should have known those changes presented risks to the wellbeing of youth, and that Local Government and School District Plaintiffs would be forced to divert and increase human and financial resources to address the youth mental health crisis that Defendants caused.

266. Each Defendant was in a superior position to control the risks of harm, ensure the

safety of its platforms, and insure against and spread the costs of any harm resulting from their dangerous choices.

B. FACTUAL ALLEGATIONS AS TO META

1. Background and overview of Meta's platforms.

267. Meta coded, engineered, manufactured, produced, assembled, and operates Facebook and Instagram, two of the world's most popular social media platforms, and placed them into the stream of commerce. In 2022, two billion users worldwide were active on Instagram each month, and almost three billion were monthly active users of Facebook.[293] This enormous reach has been accompanied by enormous damage for adolescent users.

268. Meta understands that its platforms are used by kids under 13: "[T]here are definitely kids this age on IG [Instagram]."[294] Meta understands that its platforms are addictive: "(1) teens feel addicted to IG and feel a pressure to be present, (2) like addicts, they feel that they are unable to stop themselves from being on IG, and (3) the tools we currently have aren't effective at limiting their time on the ap (sic)."[295] Meta also understands that addictive use leads to problems: "it just keeps people coming back even when it stops being good for them."[296] Further, Meta understands that these problems can be so extreme as to include encounters between adults and minors—with such "sex-talk" 32 times more prevalent on Instagram than on Facebook.[297]

269. Despite this knowledge, Meta has abjectly failed at protecting child users of Instagram and Facebook. Rather than resolving the problems created by its platforms, "the mental health team

[293] Alex Barinka, *Meta's Instagram Users Reach 2 Billion, Closing In on Facebook*, Bloomberg (Oct. 26, 2022), https://www.bloomberg.com/news/articles/2022-10-26/meta-s-instagram-users-reach-2-billion-closing-in-on-facebook.

[294] META3047MDL-003-00123666 at META3047MDL-003-00123666.

[295] META3047MDL-003-00157036 at META3047MDL-003-00157036.

[296] META3047MDL-003-00011760 at META3047MDL-003-00011761.

[297] META3047MDL-003-00119838 at META3047MDL-003-00119838.

stopped doing things . . . it was defunded . . . [and] completely stopped."[298] "We've consistently deprioritized addiction as a work area."[299] Zuckerberg himself was personally warned: "We are not on track to succeed for our core well-being topics (problematic use, bullying & harassment, connections, and [suicide and self-injury] ["]SSI["]), and are at increased regulatory risk and external criticism. These affect everyone, especially Youth and Creators; if not addressed, these will follow us into the Metaverse. . . ."[300]

270. Yet Meta did nothing. Its reason was simple: "the growth impact was too high."[301] Taking action would lower usage of (and therefore lower profits earned from) a critical audience segment. "Youth and Teens are critically important to Instagram . . . there's a new group of 13-year-olds every year and the competition over their Social Media engagement has never been more fierce."[302]

271. Meta's gestures toward youth safety were never serious and always driven by public relations: "it's all theatre."[303] Meta offered tools to kids and parents, like "time spent," that it knew presented false data—"Our data as currently shown is incorrect. . . . We're sharing bad metrics externally. . . . [although] we vouch for these numbers."[304] At the same time, Meta engaged in a cynical campaign to "counter-messag[e] around the addiction narrative" by discrediting existing research as "completely made up. . ."[305] Meta knew better. Indeed, both Zuckerberg and Instagram CEO Adam Mosseri heard firsthand from a leading researcher that Instagram and Facebook posed

[298] META3047MDL-003-00011697 at META3047MDL-003-00011698.

[299] META3047MDL-003-00157133 at META3047MDL-003-00157134.

[300] META3047MDL-003-00188109 at META3047MDL-003-00188114 (footnote omitted). "SSI" refers to "suicide and self-injury." META3047MDL-003-00068863.

[301] META3047MDL-003-00013254 at META3047MDL-003-00013254.

[302] META3047MDL-003-00030070 at META3047MDL-003-00030071.

[303] META3047MDL-003-00053803 at META3047MDL-003-00053803.

[304] META3047MDL-003-00157133.

[305] META3047MDL-003-00082165 at META3047MDL-003-00082165 - META3047MDL-003-00082166.

unique dangers to young people.

272. Meta failed to prevent the harms suffered by youth, despite having ample ability and knowledge.

a. Meta's origins and the development of Facebook.

273. In October 2003, a sophomore at Harvard College named Mark Zuckerberg hacked into the websites of Harvard's residential dorms to collect photos of students. He then designed a website called "Facemash" that invited users to rank the "hotness" of female students by comparing their photos side-by-side. In just one day, Facemash users cast over 22,000 votes judging the looks of women at Harvard.[306] This was precisely the point of Facemash, as its homepage made clear: "Were we let in for our looks? No. Will we be judged on them? Yes." When interviewed about Facemash, Zuckerberg stated, "I'm a programmer and I'm interested in the algorithms and math behind it." Zuckerberg was summoned to appear before Harvard's disciplinary body.

274. After narrowly escaping expulsion, Zuckerberg began writing code for a new website, thefacebook.com. The growth of the platform that subsequently became Facebook has been extensively documented and was the subject of an Academy Award-winning film.[307] By the end of 2005, Facebook had expanded its reach to thousands of colleges and high schools in the United States and abroad. Over the coming years, Facebook grew well beyond campuses, reaching over 100 million total active users by Fall 2008. By February 2011, Facebook had become the largest online photo host, holding nearly 100 billion photos.[308] By the end of 2011, Facebook, Inc. had

[306] Katherine Kaplan, *Facemash Creator Survives Ad Board*, Harvard Crimson (Nov. 19, 2003), https://www.thecrimson.com/article/2003/11/19/facemash-creator-survives-ad-board-the/; Bari Schwartz, *Hot or Not? Website Briefly Judges Looks*, Harvard Crimson (Nov. 4, 2003), https://www.thecrimson.com/article/2003/11/4/hot-or-not-website-briefly-judges/; Sam Brodsky, *Everything to Know About Facemash, the Site Zuckerberg Created in College to Rank 'Hot' Women*, Metro (Apr. 12, 2018), https://www.metro.us/everything-to-know-about-facemash-the-site-zuckerberg-created-in-college-to-rank-hot-women/; Noam Cohen (@noamcohen), Twitter (Mar. 20, 2018, 3:27 PM).

[307] *The Social Network* (Columbia Pictures 2010).

[308] Richard MacManus, *Facebook Mobile Usage Set to Explode*, Read Write Web (Oct. 27, 2011), https://web.archive.org/web/20120520003847/http://www.readwriteweb.com/archives/facebook_m

turned its initial losses into immense profitability, bringing in annual revenues of $3.7 billion and working with an operating income of $1.7 billion.[309]

275. However, Facebook knew its future success was not guaranteed. On February 1, 2012, Facebook, Inc. filed with the SEC for an initial public offering. The company's filing noted that its historic performance might not continue indefinitely: "A number of other social networking companies that achieved early popularity have since seen their active user bases or levels of engagement decline, in some cases precipitously. There is no guarantee that we will not experience a similar erosion of our active user base or engagement levels. A decrease in user retention, growth, or engagement could render Facebook less attractive to developers and advertisers, which may have a material and adverse impact on our revenue, business, financial condition, and results of operations."[310]

276. Facebook, Inc. also disclosed that the proliferation of smartphones could materially affect its ongoing prospects. "[O]ur users could decide to increasingly access our products primarily through mobile devices. We do not currently directly generate any meaningful revenue from the use of Facebook mobile products, and our ability to do so successfully is unproven. Accordingly, if users continue to increasingly access Facebook mobile products as a substitute for access through personal computers, and if we are unable to successfully implement monetization strategies for our mobile users, our revenue and financial results may be negatively affected."[311]

277. Facebook actively pursued changes to its platform, including adding design features

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obile_usage_set_to_explode.php; Athima Chansanchai, *One Third of Year's Digital Photos Are on Facebook*, NBC News (Sept. 20, 2011), https://www.nbcnews.com/news/world/one-third-years-digital-photos-are-facebook-flna120576.

[309] Erick Schonfeld, *Facebook's Profits: $1 Billion, On #3.7 Billion in Revenues*, TechCrunch (Feb. 1, 2012), https://techcrunch.com/2012/02/01/facebook-1-billion-profit/.

[310] Facebook, Inc., Registration Statement (Form S-1) (Feb. 1, 2012) at 11, https://www.sec.gov/Archives/edgar/data/1326801/000119312512034517/d287954ds1.htm#toc287954_2.

[311] *Id.*

offered to the public. As a result of these actions, Facebook achieved its goal. As of October 2021, Facebook had ballooned to roughly 2.91 billion monthly active users, thus reaching 59% of the world's social networking population, the only social media platform to reach over half of all social media users. At least 6% of these users are children in the U.S. between the ages of 9 and 11.[312]

278. Since its inception, Facebook has implemented several changes, developments, and designs to its platform to prolong user engagement and impose alterations to the user experience. As discussed further below, several changes, developments, and designs render the platform dangerous, addictive, and harmful.

b. Modifications of Facebook's platform features over time.

279. When Meta launched thefacebook.com on February 4, 2004, only Harvard students could create accounts using their university-issued email addresses. In March 2004, students at Stanford, Columbia, and Yale were permitted to join, and eventually, any student with a college- or university-issued email address could join Facebook.[313] In 2005, Facebook was opened to high school students, provided they were invited by someone who was already using the site.[314] By September 2006, Facebook was opened to all users.[315] At the time, Meta claimed that it was open only to individuals aged 13 and older with a valid email address.[316] However, Meta did not require verification of a user's age or identity and did not verify users' email addresses. As a result, underage

[312] Katherine Schaeffer, *7 facts about Americans and Instagram,* Pew Research Center (Oct. 7, 2021), https://www.pewresearch.org/fact-tank/2021/10/07/7-facts-about-americans-and-instagram/.

[313] Saul Hansell, *Site Previously for Students Will Be Opened to Others*, N.Y. Times (Sept. 12, 2006), https://www.nytimes.com/2006/09/12/technology/site-previously-for-students-will-be-opened-to-others.html.

[314] Ellen Rosen, *THE INTERNET; Facebook.com Goes to High School*, N.Y. Times (Oct. 16, 2005), https://www.nytimes.com/2005/10/16/nyregion/the-internet-facebookcom-goes-to-high-school.html.

[315] Saul Hansell, *Site Previously for Students Will Be Opened to Others*, N.Y. Times (Sept. 12, 2006), https://www.nytimes.com/2006/09/12/technology/site-previously-for-students-will-be-opened-to-others.html.

[316] *Id.*

users could easily register an account with and access Facebook.

280. At first, Facebook was a collection of personal profiles and single photos. It was described by the *New York Times* as "a fancy electronic version of the whiteboard that students often mount on their doors to leave and receive messages."[317] Users could post a single profile picture, add personal details such as gender, birthdate, phone number, and interests, or connect with other users by "friending" them, either by searching for them or inviting them by email. Users could also display their relationship statuses or, alternatively, what they were "[l]ooking for" (e.g., friendship, dating, a relationship, "random play," or "whatever I can get") and "[i]nterested in" (e.g., women, men). In September 2004, however, Meta introduced the "Wall," which allowed users to interact with "friends" by posting on each other's profiles. This platform feature kept users returning to Facebook to monitor Wall activity.

281. In 2005, Facebook began allowing users to upload an unlimited number of photos, making it the first photo hosting website to do so.[318]

282. In 2006, Meta introduced the Newsfeed to Facebook.[319] While previously "[e]very browsing session was like a click-powered treasure hunt,"[320] the Newsfeed provided a centralized home page where users could view their friends' activity, including any changes to their profiles or activity on the app, such as, for example, uploading new pictures, or a change in relationship status.[321] It was the first "social feed" of its kind, and, as intended, increased time spent on the

[317] *Id.*

[318] Craig Kanalley, A History of Facebook Photos (Infographic), The Huffington Post (Aug. 2, 2011), https://www.huffpost.com/entry/facebook-photos-infographic_n_916225.

[319] Think Marketing, *This Is How Facebook Has Changed Over the Past 14 Years* (February 6, 2018), https://thinkmarketingmagazine.com/facebook-celebrates-14-years-of-milestones-a-timeline/.

[320] Jillian D'Onfro, *Facebook's News Feed is 10 years old. This is how the site has changed*, World Economic Forum (Sept. 9, 2016), https://www.weforum.org/agenda/2016/09/facebooks-news-feed-is-10-years-old-this-is-how-the-site-has-changed.

[321] *Id.*

platform.[322] Users immediately decried this feature as an invasion of privacy.[323] Mark Zuckerberg rationalized the feature by saying: "we agree, stalking isn't cool; but being able to know what's going on in your friends' lives is."[324] The Newsfeed algorithm was originally designed to maximize a user's time spent in one session. However, Meta later changed the code to maximize as many use sessions as possible. The frequency of sessions is a strong indicator of problematic use, a point internal Facebook researchers have made when suggesting that Facebook should "help people consolidate their use of Facebook into fewer sessions."[325] Despite this knowledge, Meta continued to focus on maximizing sessions, including for teens,[326] even prioritizing the metric over "integrity" improvements to its platforms.[327]

283. In May 2007, Meta launched a video service on Facebook, which allowed it to compete with YouTube and the then-popular Myspace.[328] Users could upload videos or record them from a webcam.

284. In April 2008, Meta launched Facebook Chat, which later became Facebook Messenger, allowing users to have private conversations with each other.[329] Facebook Chat appeared as a permanent bar across the bottom of users' screens; it also provided users the ability

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[322] *Id.*

[323] Moneywatch, *Facebook Under Fire for New Feature*, CBS News (Sept. 7, 2006), https://www.cbsnews.com/news/facebook-under-fire-for-new-feature/.

[324] Gillian D'Onfro, *Facebook's News Feed is 10 years old. This is how the site has changed*, World Economic Forum (Sept. 9, 2016), https://www.weforum.org/agenda/2016/09/facebooks-news-feed-is-10-years-old-this-is-how-the-site-has-changed.

[325] Haugen_00010114 at Haugen_00010121.

[326] *See, e.g.*, META3047MDL-003-00161881 at META3047MDL-003-00161915 (highlighting moderate decline in sessions among teen Instagram users in the United States).

[327] *See* META3047MDL-003-00170806 at META3047MDL-003-00170822 (Instagram sessions "cannot decrease").

[328] Pete Cashmore, *Facebook Video Launches: YouTube Beware!*, Mashable (May 24, 2007), https://mashable.com/archive/facebook-video-launches.

[329] Dan Farber, *Facebook Chat begins to roll out*, CNET (April 6, 2008), https://www.cnet.com/culture/facebook-chat-begins-to-roll-out/.

to see which friends were "online" and presumably available to chat. Facebook Chat allowed users to immerse themselves even deeper into Meta's platform; one commentator noted that, "[b]y making Facebook more real time/presence oriented, Facebook session length should go up a lot."[330]

285. In May 2008, Meta added a "People You May Know" feature to the platform, touting it as a way to "connect [users] to more of your friends" on Facebook.[331] Facebook's algorithms utilize the vast amount of data it collects from its users to make personalized suggestions to users for "friending."[332] It utilizes information such as a user's friends list, their friends' friends list, education information, and work information, along with other data, to make these suggestions.[333] Some users dislike the feature, complaining that it constantly shows them people they do not want to friend, or even suggests people in sexually explicit poses,[334] but Facebook does not provide the option to disable this feature.

286. In February 2009, Meta launched the "Like" button on Facebook.[335] The button allowed users to provide a quick reaction, as opposed to typing out a comment. Facebook's algorithm counts and displays Likes to other users. The measure also served as a social measuring stick, by which users could gauge the success of their posts, photographs, and videos. Soon after, Meta expanded the Like feature to comments as well. Users could also use the Like button to follow public figures, such as brands or publishers. When a user Liked a brand, for example, Meta would

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[330] *Id.*

[331] Kashmir Hill, *'People You May Know:' A Controversial Facebook Feature's 10-Year History*, Gizmodo (Aug. 8, 2018), https://gizmodo.com/people-you-may-know-a-controversial-facebook-features-1827981959.

[332] *Id.*

[333] *Id.*

[334] *Id.*

[335] Will Oremus, *How Facebook Designed the Like Button—and made social media into a Popularity Contest*, Fast Company (Nov. 15, 2022), https://www.fastcompany.com/90780140/the-inside-story-of-how-facebook-designed-the-like-button-and-made-social-media-into-a-popularity-contest.

use that information to show ads for that brand to the user's friends on Facebook.[336] In April 2010, Meta launched "social plug-ins" that would allow people to "Like" things on the Internet outside of Facebook. Meta used the button to track Facebook users' engagement across the Internet, leveraging the data it gathered to sell targeted ads and fuel the Newsfeed algorithm.[337] The button also shaped users' own behavior, as they were conditioned to act and interact in whatever ways would generate the Like rewards, or risk having their activity hidden from their friends' Newsfeeds.[338]

287. Also in 2009, Meta changed the Newsfeed experience from chronological to algorithmic ordering, with Meta now dictating which posts users would see by highlighting "Top Stories" in each user's Newsfeed.[339]

288. In December 2010, Meta began using facial recognition to identify people in users' Facebook photos and suggest that users tag them.[340] Rather than letting users opt-in to the feature, Meta automatically enabled it for all users.[341]

289. Meta also debuted infinite scrolling in 2010, initially for photos, but later for its core Newsfeed, ensuring that users would never reach the bottom of a page and would, instead, keep scrolling without end or limits, leading to excessive and compulsive platform use.[342]

290. In August 2012, Meta introduced the Facebook Messenger app, a feature that allowed

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[336] *Id.*

[337] *Id.*

[338] *Id.*

[339] Alex Hern, *Facebook to Restore Chronological Feed of Posts from Friends*, The Guardian (July 21, 2022), https://www.theguardian.com/technology/2022/jul/21/facebook-to-restore-chronological-feed-of-posts-from-friends.

[340] Ben Parr, *Facebook Brings Facial Recognition to Photo Tagging*, Mashable (Dec. 16, 2010), http://www.cnn.com/2010/TECH/social.media/12/16/facebook.facial.recognition.mashable/index.html.

[341] Charles Arthur, *Facebook In New Privacy Row Over Facial Recognition Feature*, The Guardian (June 8, 2011), https://www.theguardian.com/technology/2011/jun/08/facebook-privacy-facial-recognition?INTCMP=SRCH.

[342] Bob Leggit, *How the Internet Destroyed Your Attention Span*, Popzazzle (Apr. 30, 2021), https://popzazzle.blogspot.com/2021/04/how-the-internet-destroyed-your-attention-span.html.

users to see when their friends were last active on the platform.[343]

291. In August 2015, Meta launched Facebook Live, which allowed users to live-stream videos.[344] It immediately prompted more engagement with the platform and furthered Meta's goal of keeping users coming back, both to create the videos and to interact with them.[345]

292. In February 2016, Meta expanded Facebook's "Like" feature for posts, adding "Reactions" such as "like," "love," "haha," "wow," "sad," and "angry."[346] The following year, reactions were extended to comments.[347] In a manner similar to Likes, these reactions further manipulated adolescents' behavior, preying on their psychological vulnerabilities to produce compulsive use.

293. In March 2017, following the launch of a similar platform on Instagram, Meta introduced Facebook Stories, with the hope of competing with the success of Snapchat among young people.[348] With Stories, users could post short, ephemeral videos that appeared for 24-hours at the top of friends' Newsfeeds.[349] Stories is designed to keep users coming back to the platform at least daily, feeding performance metrics that are crucial to Meta's bottom line, or otherwise risk missing out.

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[343] Billy Gallagher, *Facebook Brings Notifications, Album-Specific Uploads to Standalone Camera App*, Tech Crunch (Aug. 28, 2012), https://techcrunch.com/2012/08/28/facebook-brings-notifications-album-specific-uploads-to-standalone-camera-app/?icid=tc_dan-schawbel_art&blogger=dan-schawbel#.

[344] Joe Lazauskus, *The Untold Story of Facebook Live*, Fast Company (Sept. 29, 2016), https://www.fastcompany.com/3064182/the-untold-story-of-facebook-live.

[345] *Id.*

[346] Casey Newton, *Facebook Rolls Out Expanded Like Button Reactions Around the World*, The Verge (Feb. 24, 2016), https://www.theverge.com/2016/2/24/11094374/facebook-reactions-like-button.

[347] Natt Garun, *Facebook Reactions Have Now Infiltrated Comments*, The Verge (May 3, 2017), https://www.theverge.com/2017/5/3/15536812/facebook-reactions-now-available-comments.

[348] Casey Newton, *Facebook Launches Stories to Complete its All-out Assault on Snapchat*, The Verge (Mar. 28, 2017), https://www.theverge.com/2017/3/28/15081398/facebook-stories-snapchat-camera-direct.

[349] *Id.*

294. Later that year, in December 2017, Meta rolled out Facebook Kids, a messaging app designed for kid's ages 6 to 12,[350] for the purpose of getting younger users on its platform sooner. The app does not require a Facebook account, and instead allows children to create accounts that are managed through parents' Facebook accounts.[351] Meta touted it as a way to "give[] parents more control."[352] The app, however, still collects an extraordinary amount of data about its child users, including their messages, any photos they send, and what features they use on the app.[353] Currently, there are no other official Facebook platforms marketed publicly by Meta as intended for children under 13 (despite the proliferation of such users on Instagram and Facebook). However, as of April 2021, Meta was actively seeking to develop ways for children as young as six to use the platform.[354]

295. In August 2020, Meta introduced "Reels" on Instagram.[355] Reels are short videos posted by other Instagram users, presented in an algorithmically generated feed, and in a full-screen format popularized by TikTok. Meta subsequently introduced Reels to Facebook in 2021.[356] As explained more fully below, Meta committed to making videos more and more prevalent on their platforms to attract and keep younger users in the face of competition from TikTok.

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[350] Nick Statt, *Facebook Launches a Version of Messenger for Young Children*, The Verge (Dec. 4, 2017), https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview.

[351] *Id.*

[352] Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec. 4, 2017), https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/.

[353] Nitasha Tiku, *Facebook for 6-Year-Olds? Welcome to Messenger* Kids, Wired (Dec. 5, 2017), https://www.wired.com/story/facebook-for-6-year-olds-welcome-to-messenger-kids/.

[354] Ezra Kaplan and Jo Ling Kent, *Documents reveal Facebook targeted children as young as 6 for consumer base*, NBC News (Oct. 29, 2021), https://www.nbcnews.com/tech/social-media/facebook-documents-reveal-company-targeted-children-young-6-rcna4021?cid=sm_npd_nn_tw_ma.

[355] Instagram, *Introducing Instagram Reels* (Aug. 5, 2020), https://about.fb.com/news/2020/08/introducing-instagram-reels/.

[356] Facebook, *Launching Reels on Facebook in the US* (Sept. 29, 2021), https://about.fb.com/news/2021/09/launching-reels-on-facebook-us/.

c. Facebook's acquisition and control of Instagram.

296. On or around April 6, 2012, Zuckerberg called Kevin Systrom, one of the co-founders of Instagram, offering to purchase his company.[357]

297. Instagram launched as a mobile-only app that allowed users to create, filter, and share photos. On the first day of its release in October 2010, it gained a staggering 25,000 users.[358] By April 2012, Instagram had approximately 27 million users. When Instagram released an Android version of its app—right around the time of Zuckerberg's call—it was downloaded more than a million times in less than a day.[359] Instagram's popularity is so widespread and image-based, a new term has grown up around it for the perfect image or place: "Instagrammable."[360] Its users also use a variety of slang derived from the platform, such as "IG"; "The Gram"; "Do it for the Gram," a phrase used by a user performing a risky or unusual action to garner attention; "Finsta," a contraction of fun or fake Instagram used to refer to secondary accounts; among other slang.

298. On April 9, 2012, just days after Zuckerberg's overture to Systrom, Facebook, Inc. purchased Instagram, Inc. for $1 billion in cash and stock. This purchase price was double the valuation of Instagram implied by a round of funding the company had closed days earlier.[361]

299. Facebook, Inc. held its initial public offering less than two months after acquiring

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[357] Nicholas Carlson, *Here's The Chart That Scared Zuckerberg Into Spending $1 Billion On Instagram*, Insider (Apr. 14, 2012), https://www.businessinsider.com/heres-the-chart-that-scared-zuckerberg-into-spending-1-billion-on-instagram-2012-4.

[358] Dan Blystone, *Instagram: What It Is, Its History, and How the Popular App Works*, Investopedia (Oct. 22, 2022), https://www.investopedia.com/articles/investing/102615/story-instagram-rise-1-photo0sharing-app.asp#:~:text=History%20of%20Instagram.

[359] Kim-Mai Cutler, *From 0 to $1 billion in two years: Instagram's rose-tinted ride to glory* TechCrunch (Apr. 9, 2012), https://techcrunch.com/2012/04/09/instagram-story-facebook-acquisition/.

[360] Sarah Frier, *No Filter*, New York, Simon & Schuster (2020). https://www.amazon.com/No-Filter-Inside-Story-Instagram/dp/1982126809

[361] Alexia Tsotsis, *Right Before Acquisition, Instagram Closed $50M At A $500M Valuation From Sequoia, Thrive, Greylock And Benchmark*, TechCrunch (Apr. 9, 2012), https://techcrunch.com/2012/04/09/right-before-acquisition-instagram-closed-50m-at-a-500m-valuation-from-sequoia-thrive-greylock-and-benchmark/.

Instagram, Inc.[362]

300. Zuckerberg's willingness to pay a premium for Instagram was driven by his instinct that Instagram would be vital to reaching a younger, smartphone-oriented audience—and thus critical to his company's future success.

301. This was prescient. Instagram's revenue grew exponentially from 2015 to 2022.[363] A study conducted in the second quarter of 2018 showed that, over the prior year, advertisers' spending on Instagram grew by 177%—more than four times the growth of ad spending on Facebook.[364] Likewise, visits to Instagram rose by 236%, nearly *thirty* times the growth in site visits experienced by Facebook during the same period.[365] By 2021, Instagram accounted for over half of Meta's $50.3 billion in net advertising revenues.[366]

302. Meta has claimed credit for Instagram's success since its acquisition. Zuckerberg told market analysts that Instagram "wouldn't be what it is without everything that we put into it, whether that's the infrastructure or our advertising model."[367]

303. Instagram has become the most popular photo-sharing social media platform among teenagers and young adults in the United States. 62% of American teens use Instagram, with 10%

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[362] Evelyn Rusli & Peter Eavis, *Facebook Raises $16Billion in I.P.O.*, N.Y. Times (May 17, 2012), https://archive.nytimes.com/dealbook.nytimes.com/2012/05/17/facebook-raises-16-billion-in-i-p-o/.

[363] *See* Josh Constine, *Instagram Hits 1 Billion Monthly Users, Up From 800M in September*, TechCrunch (June 20, 2018), https://techcrunch.com/2018/06/20/instagram-1-billion-users/ (showing meteoric rise in monthly active users over period and reporting year-over-year revenue increase of 70% from 2017-2018).

[364] Merkle, *Digital Marketing Report* 3 (Q2 2018), https://www.merkleinc.com/thought-leadership/digital-marketing-report/digital-marketing-report-q2-2018.

[365] *Id.*

[366] Sara Lebow, *For the First Time, Instagram Contributes Over Half of Facebook's US Ad Revenues*, eMarketer (Nov. 2, 2021), https://www.emarketer.com/content/instagram-contributes-over-half-of-facebook-us-ad-revenues.

[367] Salvador Rodriguez, *Mark Zuckerberg Is Adamant that Instagram Should Not Be Broken Off from Facebook*, CNBC (Oct. 20, 2019), https://www.cnbc.com/2019/10/30/mark-zuckerberg-is-adamant-that-instagram-should-remain-with-facebook.html.

of users reporting that they use it "almost constantly."[368] Instagram's young user base has become even more important to Meta as the number of teens using Facebook has decreased over time.[369]

304. Facebook's and Instagram's success, and the riches they have generated for Meta, have come at an unconscionable cost in human suffering.

305. In September 2021, The Wall Street Journal began publishing internal documents leaked by former Facebook product manager Frances Haugen.[370] The documents are disturbing. They reveal that, according to Meta's researchers, 13.5% of U.K. girls reported more frequent suicidal thoughts, and 17% of teen girls reported worsening eating disorders after starting to use Instagram.[371] Over 40% of Instagram users who reported feeling "unattractive" said that feeling began while using Instagram,[372] and 32% of teen girls who already felt bad about their bodies felt

[368] Emily Vogels et al., Teens, Social Media and Technology 2022, Pew Research. Ctr. (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/; *see also* Piper Sandler, *Taking Stock With Teens* 19 (Fall 2021), https://piper2.bluematrix.com/docs/pdf/3bad99c6-e44a-4424-8fb1-0e3adfcbd1d4.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top (eighty-one percent of teens use Instagram at least once a month).

[369] Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), https://www.nytimes.com/2021/10/16/technology/instagram-teens.html.

[370] The collection of Wall Street Journal articles are available online via the following link: https://www.wsj.com/articles/the-facebook-files-11631713039?mod=bigtop-breadcrumb.

[371] Morgan Keith, *Facebook's Internal Research Found its Instagram Platform Contributes to Eating Disorders and Suicidal Thoughts in Teenage Girls, Whistleblower Says*, Insider (Oct. 3, 2021), https://www.businessinsider.com/facebook-knows-data-instagram-eating-disorders-suicidal-thoughts-whistleblower-2021-10.

[372] Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739; Facebook Staff, *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.* 9 (Mar. 26, 2020), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf.

even worse because of the app.[373]

306. Internal Meta presentations from 2019 and 2020 were transparent in their conclusions about the harms caused by Instagram: "We make body image issues worse for one in three teen girls." "Mental health outcomes related to this can be severe." "Aspects of Instagram exacerbate each other to create a perfect storm."[374]

307. Haugen's revelations made clear to the public what Meta has long known: In an effort to addicts kids and drive increased usage, Meta's platforms exploit the neurobiology of developing brains, and all the insecurities, status anxieties, and beauty comparisons that come along with it. In a bid for higher profits, Meta ignored or actively concealed the harms resulting from its addiction-based business model, which are widespread, serious, long-term, and in tragic instances, fatal.

D. Modifications of Instagram's platform features over time.

308. In its earliest form, Instagram was a photo-sharing app. Users could post still images—enhanced by the platform's suite of built-in photo filters—"follow" other users, and "Like" or comment on posts by other users, all in a centralized chronological feed. Instagram also allowed users to see their friends' activity—such as liking or commenting on a post, or following other accounts—on the app, through its "Following" tab.

309. In January 2011, Instagram added hashtags, which allowed users to group together posts about particular topics.[375]

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[373] Billy Perrigo, *Instagram Makes Teen Girls Hate Themselves. Is That a Bug or a Feature?*, Time (Sept. 16, 2021), https://time.com/6098771/instagram-body-image-teen-girls/.

[374] Georgia Wells, Jeff Horwitz, Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, Wall St. J. (Sept. 14, 2021), https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739; Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S., Wall St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf.

[375] *Diving Deep into the Science of the Instagram Algorithm*, Signalytics, https://about.fb.com/news/2020/08/introducing-instagram-reels/.

310. Since acquiring Instagram, Meta has introduced to the platform a host of additional features to drive pre-teen and teenage engagement and, in doing so, increase advertising revenues.

311. In June 2013, in addition to the still, filtered images for which the platform was known, Instagram began to support videos of up to 15 seconds.[376] This feature also included 13 new, specially created filters that could be applied to the videos. At the time, this feature satisfied what some characterized as the "years-long search for an 'Instagram for video,'"[377] and allowed Instagram to compete with a popular video-sharing platform at the time, Vine. It also allowed users posting videos to select their "favorite" scene from the video to be displayed as the cover image on video posts. According to Systrom, this ensured that user's videos were "beautiful even when they're not playing."[378] Despite this, Instagram remained largely a photo-sharing app.

312. In December 2013, Meta added Instagram Direct, a feature that allows users to send messages or posts to specific people directly from the app.[379] This function allowed Instagram to compete against messaging platforms like Snapchat that were gaining popularity among teens and pre-teens.

313. In June 2015, Meta opened Instagram to all advertisers, weaving advertisements into users' Feeds.[380]

314. In March 2016, Meta did away with Instagram's chronological feed and implemented

[376] Colleen Taylor, *Instagram Launches 15-Second Video Sharing Feature, With 13 Filters And Editing*, Tech Crunch (June 20, 2013), https://techcrunch.com/2013/06/20/facebook-instagram-video/.

[377] *Id.*

[378] Kevin Systrom, *Introducing Video on Instagram*, Instagram (June 20, 2013), https://about.instagram.com/blog/announcements/introducing-video-on-instagram.

[379] Jordan Crook, *Instagram Introduces Instagram Direct*, Tech Crunch (Dec. 12, 2013), https://techcrunch.com/2013/12/12/instagram-messaging/.

[380] Vindu Goel & Sydney Ember, *Instagram to Open its Photo Feed to Ads*, N.Y. Times (June 2, 2015), https://www.nytimes.com/2015/06/03/technology/instagram-to-announce-plans-to-expand-advertising.html.

engagement-based ranking algorithms.[381] Now, upon opening the app, users would no longer see posts from people they followed in the order they were posted; instead, they would encounter an algorithmic feed, like the one employed on Meta's other platform, Facebook. At the time, Meta said that the new algorithmic feed would rank the order of posts in users' feeds based on the "likelihood that [they would] be interested in the [post], [their] relationship with the person posting[,] and the timeliness of the post. . . ."[382]

315. In February 2016, with the popularity of video rising on Instagram, Meta added view counts to videos, allowing users to see how many times users had viewed their posts.[383] Later that year, in December 2016, Instagram added the ability to "Like" comments to posts (symbolized by a heart emoji).[384] Both features became a source of additional motivation by users to seek social acceptance and validation.

316. In August 2016, Meta introduced Instagram Stories,[385] another feature intended to compete against Snapchat for the youth market. Systrom has admitted that the feature was copied from a Snapchat feature popular with children called "Snapchat Stories."[386] Later that year, in

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[381] Alex Heath, *Instagram is about to go through its most radical change ever*, Insider (Mar. 15, 2016), https://www.businessinsider.com/instagram-to-introduce-algorithmic-timeline-2016-3.

[382] *Id.*

[383] Michael Zhang, *Instagram is Adding View Counts to Your Videos*, PetaPixel (Feb. 11, 2016), https://petapixel.com/2016/02/11/instagram-adding-view-counts-videos/.

[384] Hayley Tsukayama, *Instagram will soon let you like comments – or even turn them off completely*, Wash. Post (Dec. 6, 2016), https://www.washingtonpost.com/news/the-switch/wp/2016/12/06/instagram-will-soon-let-you-like-comments-or-even-turn-them-off-completely/.

[385] Instagram, *Introducing Instagram Stories* (Aug. 2, 2016), https://about.instagram.com/blog/announcements/introducing-instagram-stories#:~:text=Today%2C%20we're%20introducing%20Instagram,a%20slideshow%20format%3A%20your%20story.

[386] Rachel Kraus, *Instagram Founder Admits He Blatantly Stole Stories from Snapchat,* Mashable (Mar. 11, 2019), https://www.nytimes.com/2021/10/16/technology/instagram-teens.htmlhttps://mashable.com/article/kevin-systrom-instagram-stories-snapchat.

November 2016, Meta introduced Instagram Live,[387] designed to compete with both Snapchat's ephemeral, disappearing posts, and the live-streamed videos of a then-popular platform called Periscope. Instagram Live permitted users to livestream video, which disappeared as soon as the live stream stopped.

317. In December 2016, Meta introduced a platform feature that allowed users to "save" posts from other users.[388] By tapping a bookmark icon underneath posts in their feeds, users could save posts for later, in a private tab that was viewable only to the saving user.

318. In April 2017, Meta introduced another feature with appeal to children, an offline mode that allows users to view posts and interact with Instagram even when they do not have access to an Internet connection,[389] for example when riding a bus to or from school or when parents have disabled home internet to prevent overuse of social media by their kids.

319. In January 2018, Meta launched a feature allowing Instagram users to see when others they had messaged with were active, or most recently active, on Instagram. This feature exploits social reciprocity, which, as explained above, results in more time spent using the platform.

320. In June 2018, at the same time it announced that Instagram had grown to one billion users, Meta introduced IGTV, both in the Instagram app and as a standalone platform.[390] IGTV was intended to rival YouTube. IGTV allowed users to upload videos up to one-hour long.

321. In September 2018, Systrom and Instagram co-founder Mike Krieger resigned from Instagram, and Facebook named Adam Mosseri, a 10-year veteran of Facebook, as Instagram's new CEO.

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[387] Josh Constine, *Instagram launches disappearing Live video and messages*, Tech Crunch (Nov. 21, 2016), https://techcrunch.com/2016/11/21/instagram-live/.

[388] Lisa Eadicicco, *Instagram Just Added a New Feature that Lets You Save Other Users' Posts*, Time (Dec. 14, 2016), https://time.com/4602063/instagram-new-update-features-2016/.

[389] Josh Constine, *Instagram on Android gets offline mode*, Tech Crunch (Apr. 18, 2017), https://techcrunch.com/2017/04/18/instagram-offline/.

[390] Kevin Systrom, *Welcome to IGTV, our New Video App*, Instagram (June 20, 2018), https://about.instagram.com/blog/announcements/welcome-to-igtv.

322. Under Mosseri's leadership, Instagram aggressively focused on acquiring and maximizing the engagement of young users. In 2018, Instagram allotted most of its global annual marketing budget to targeting 13-to 15-year-old children, a marketing demographic it calls "early high school."[391] According to Meta, these users represent the platform's "teen foothold" for its "US pipeline."[392] "Youth and Teens are critically important to Instagram. While Instagram has strong market-fit with Teens, we know we need to constantly 're-win' this segment."[393] Meta has expressly sought to maximize metrics like "teen time spent" on the Instagram platform.[394]

323. One way Meta sought to increase its teen metrics was through its launch of "Reels" in August 2020, which mimicked the format of videos on TikTok. As noted, Reels mirrors TikTok by algorithmically presenting short, "full-screen" videos posted by other Instagram users. Like TikTok, Reels counts and displays the number of likes, follows, comments, shares, and views of a video. The following year, Meta did away with IGTV, which had allowed longer videos to be posted by users in a more traditional format. In late July 2022, Mosseri announced that "more and more of Instagram is going to become video over time."[395]

324. Instagram creates images and GIFs for users to incorporate into their videos and picture postings. Instagram has also acquired publishing rights to thousands of hours of music and video, which it provides to its users to attach to the videos and pictures that they post on Instagram.

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[391] Sheera Frenkel et al., *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 16, 2021), https://www.nytimes.com/2021/10/16/technology/instagram-teens.html.

[392] *Id.*

[393] META3047MDL-003-00030070 at META3047MDL-003-00030071.

[394] Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), https://www.nytimes.com/2021/10/16/technology/instagram-teens.html.

[395] Marisa Dellatto, *Instagram Exec Defends Shift to Video Despite Complaints from Creators like Kylie Jenner*, Forbes (July 26, 2022), https://www.forbes.com/sites/marisadellatto/2022/07/26/instagram-exec-defends-shift-to-video-despite-complaints-from-creators-like-kylie-jenner/?sh=4099badd5c6e.

2. Meta intentionally encourages youth to excessively use its platforms and then leverages that usage to increase revenue.

325. Facebook and Instagram owe their success to their design choices, including their underlying computer code and algorithms. Meta's tortious conduct begins before a user has viewed, let alone posted, any content.

326. Meta describes the Instagram platform as a "mobile-first experience."[396] Indeed, the great majority of Instagram users in the U.S. access Instagram through a mobile application for either the iOS or Android operating systems.

327. To use the Facebook or Instagram app, one must first obtain it. On a mobile device, this is accomplished by visiting a store from which the platform can be downloaded—either the Apple App Store (for iPhone users) or the Google Play Store (for Android users). Once installed onto an individual's smartphone, they can open the app. They are then asked to create a new account by entering an email address, adding a name, and creating a username and password.

328. A prospective Instagram or Facebook user is then invited to press a colorful "Sign up" button. In small print above this button, the user is informed: "By tapping Sign up, you agree to our Terms, Data Policy and Cookies Policy." The text of those policies is not presented on the sign-up page. While the words "Terms," "Data Policy," and "Cookies Policy" are slightly bolded, the user is not informed that they can or should click on them, or otherwise told how they can access the policies.

[396] Yorgos Askalidis, *Launching Instagram Messaging on Desktop*, Instagram (Sept. 25, 2020), https://about.instagram.com/blog/engineering/launching-instagram-messaging-on-desktop.

329. Meta's Data Policy (rebranded as a "Privacy Policy" in 2022), which applies to a range of Meta platforms, including Facebook and Instagram,[397] indicates Meta collects a breathtaking amount of data from the users of its platforms, including:

a. "[c]ontent that you create, such as posts, comments or audio";

[397] Meta, *Privacy Policy*, Meta (Jan. 1, 2023), https://mbasic.facebook.com/privacy/policy/printable/#annotation-1.

b. "[c]ontent you provide through our camera feature or your camera roll settings, or through our voice-enabled features";

c. "[I]nformation you've shared with us through device settings, such as GPS location, camera access, photos and related metadata";

d. "[m]essages that you send and receive, including their content";

e. "Metadata about content and messages";

f. "[t]ypes of content that you view or interact with, and how you interact with it";

g. "[t]he time, frequency and duration of your activities on our products";

h. "your contacts' information, such as their name and email address or phone number, if you choose to upload or import it from a device, such as by syncing an address book";

i. information about "What you're doing on your device (such as whether our app is in the foreground or if your mouse is moving)";

j. "device signals from different operating systems," including "things such as nearby Bluetooth or Wi-Fi connections";

k. "[i]nformation about the network that you connect your device to," which includes "The name of your mobile operator or Internet service provider (ISP), Language, Time zone, Mobile phone number, IP address, Connection speed, Information about other devices that are nearby or on your network, Wi-Fi hotspots you connect to using our products"; and,

l. "information from . . . third parties, including . . . [m]arketing and advertising vendors and data providers, who have the rights to provide us with your information."

330. While the Data Policy indicates the scope of user information collected by Meta through Facebook and Instagram, it is far less forthcoming about the purposes for which this data is collected, and its consequences for younger users.

331. The Data Policy presents those goals as benign and even positive for its users — "to provide a personalized experience to you" and to "make suggestions for you such as people you may know, groups or events that you may be interested in or topics that you may want to follow."[398]

[398] Meta, *Privacy Policy*, Meta (Jan. 1 2023), https://mbasic.facebook.com/privacy/policy/printable/#annotation-1.

332. The Data Policy does not inform users that the more time individuals spend using Facebook and Instagram, the more ads Meta can deliver and the more money it can make; or that the more time users spend on Facebook and Instagram, the more Meta learns about them, and the more it can sell to advertisers the ability to micro-target highly personalized ads.[399]

333. Meta monetizes its users and their data by selling ad placements to marketers. Meta generated $69.7 billion from advertising in 2019, more than 98% of its total revenue for the year.[400]

334. Given its business model, Meta has every incentive to—and knowingly does—addict users to Facebook and Instagram. It accomplishes this through the algorithms that power its platforms, which are fueled by user data and designed to induce compulsive and continuous scrolling for hours on end, operating in conjunction with the other dangerous features described throughout this Complaint.[401]

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[399] Nor does it inform users that Meta previously allowed third-party apps to harvest from Facebook "vast quantities of highly sensitive user and friends permissions." *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). This has included an app called Sync.Me, which—according to Meta's internal investigative documents — "had access to many 'heavyweight' permissions," "including the user's entire newsfeed, friends' likes, friends' statuses, and friends' hometowns." *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). It has included Microstrategy, Inc., which accessed data from "16 to 20 million" Facebook users, despite only being installed by 50,000 people. *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9 (N.D. Cal. Feb. 9, 2023). And it has included one Yahoo app that made "billions of requests" for Facebook user information, including "personal information about those users' friends, including the friends' education histories, work histories, religions, politics, 'about me' sections, relationship details, and check-in posts." *In re Facebook, Inc.*, No. 18-md-02843-VC, ECF No. 1104 at 9-10 (N.D. Cal. Feb. 9, 2023).

[400] Rishi Iyengar, *Here's How Big Facebook's Ad Business Really Is*, CNN (July 1, 2020), https://www.cnn.com/2020/06/30/tech/facebook-ad-business-boycott.

[401] *See* Christian Montag, et al., *Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories*, 16 Int'l J. Env't Rsch. and Pub. Health 2612, 5 (July 16, 2019), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6679162/ ("One technique used to prolong usage time in this context is the endless scrolling/streaming feature."); *see generally*, Ludmila Lupinacci, 'Absentmindedly scrolling through nothing': liveness and compulsory continuous connectedness in social media, 43 Media, Culture & Soc'y 273 (2021), https://journals.sagepub.com/doi/epdf/10.1177/0163443720939454 (describing the ways that users use and experience social media apps).

335. Meta's Data Policy contains no warnings whatsoever that use of its platforms at the intensity and frequency targeted by Meta creates known risks of mental, emotional, and behavioral problems, nor does it mention the increased likelihood of injury for children, Instagram's key audience.

336. Instagram's collection and utilization of user data begins the instant a user presses "Sign Up." At that point, Instagram prompts a new user to share a substantial amount of personal data. First, Instagram asks the user to share their personal contacts, either by syncing contacts from their phone and/or syncing their "Friends" from Facebook — "We'll use your contacts to help you find your friends and help them find you." Next, Instagram asks the new user to upload a photo of themselves. After that, Instagram asks the user to "Choose your interests" to "Get started on Instagram with account recommendations tailored to you." Finally, Instagram invites the new user to "Follow accounts to see their photos and videos in your feed," offering a variety of recommendations. After sign-up is completed, Instagram prompts the new user to post either a photo or a short video.

337. Meta's collection and utilization of user data—including data from youth and children under 13—continues unabated as new users begin to interact with its platforms. Meta's tracking of behavioral data—ranging from what the user looks at, to how long they hover over certain images, to what advertisements they click on or ignore—helps Meta determine how to best lure each user into remaining on the platform for as long as possible. And the longer users remain on the platform, the more information Meta can collect, allowing Meta to monopolize users' attention ever more effectively.

338. Both the user data that Meta gathers and the compulsive use of the platform the data enables are key to Meta's true business: selling ads.

339. Meta's horde of user data allows advertisers to micro-target advertising to very specific categories of users, while also serving up a captive audience of users to view the ad.

340. Currently, advertisers can target Instagram and Facebook ads to young people based

on age, gender, and location.[402] While Meta has claimed that it stopped collecting advertising data from teens in July 2021, the non-profit Fairplay has stated that the collection continued unabated.[403]

341. Meta clearly understands the revenue and growth potential presented by its youngest users, and it is desperate to retain them. Documents obtained by *The New York Times* indicate that, since 2018, almost all of Instagram's $390 million global marketing budget has gone towards showing ads to teenagers.[404]

342. Before the rise of Instagram, Facebook was the social media platform by which Meta targeted young users. Until recently, this targeting was devastatingly effective. In January 2014, 90% of U.S. teens used Facebook monthly; as late as January 2016, 68% did.[405]

343. While the number of teen Facebook users has declined in recent years, Facebook remains critical to Meta's strategy towards young users. Meta views Facebook as the nexus of teen users' lives on social media, "where all social circles intersect," and as filling a similar role for such users as the career-focused social media platform LinkedIn fills for adults.[406] According to the summary of a 2018 meeting, Meta's expressed goal was to have users "move through" Meta's platforms "as they grow, i.e. Messenger Kids → Instagram → Facebook."[407]

344. To create this cycle, Meta embarked on a "major investment in youth," researching and pursuing platforms targeted at kids as young as six.[408] The centerpiece of these efforts is

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[402] Andrea Vittorio, *Meta's Ad-Targeting to Teens Draws Advocacy Group Opposition*, Bloomberg (Nov. 16, 2021), https://news.bloomberglaw.com/privacy-and-data-security/metas-ad-targeting-to-teens-draws-advocacy-group-opposition.

[403] *Id.*

[404] Sheera Frenkel, et al, *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users* N.Y. Times (Oct. 16, 2021), https://www.nytimes.com/2021/10/16/technology/instagram-teens.html.

[405] META3047MDL-003-00171899 at META3047MDL-003-00171904.

[406] META3047MDL-003-00171899 at META3047MDL-003-00171909.

[407] META3047MDL-003-00003731 at META3047MDL-003-00003732.

[408] Haugen_00017238 at Haugen_00017238.

Messenger Kids.[409] In 2019, Meta conducted at least two research projects on growing Messenger Kids. One study explored how to use "Playdates as a Growth Lever for Messenger Kids."[410] During this study, Meta sought to understand better how playdates might be an area to increase usage among kids by interviewing parents of active users and the young users themselves.[411] Investigators suggested there was an opportunity to "brainstorm features and/or prompts encouraging use of the app, before and after playdates, to improve retention and active threads."[412] Later that year, they released a finding from a second investigation of parents and children who used Messenger Kids and those who did not.[413] To drive Messenger Kids growth, the study recommended "encourag[ing] more K2K [kid-to-kid] connections in [Messenger Kids]" by "surfac[ing] and develop[ing] additional in-app activities that involve others," while emphasizing to parents the "play-based messaging" and the "play aspect of [Messenger Kids] —camera filters, games, filters via notifs and QPs."[414] Many of the same features are found on Instagram.

345. Meta was also eager to market its platforms to tweens—users aged 10-12. Although Meta employees publicly denied using children as "guinea pigs" to develop platform features, internally Meta was intensely interested in children's use of their platforms.[415] Meta conducted research projects, with titles such as "Tweens JTBD Survey"[416] and "Exploring Tweens Social

[409] Nick Stat, *Facebook launches a version of Messenger for young children*, The Verge (December 4, 2022) https://www.theverge.com/2017/12/4/16725494/facebook-messenger-kids-app-launch-ios-iphone-preview.

[410] Haugen_00023087 at Haugen_00023087.

[411] Haugen_00023087 at Haugen_00023088, Haugen_00023097.

[412] Haugen_00023087 at Haugen_00023090.

[413] Haugen_00023066 at Haugen_00023066.

[414] Haugen_00023066 at Haugen_00023085.

[415] John Twomey, *Molly Russell Inquest Latest: Teenager Viewed Suicide Videos of 'Most Distressing Nature'*, Express (Sept. 23, 2022), https://www.express.co.uk/news/uk/1673461/Molly-Russell-inquest-latest-Teenager-suicide-videos-instagram.

[416] "JTBD" appears to stand for "Jobs to Be Done." Haugen_00024450 at Haugen_00024454.

Media Habits."[417] In the latter study, Meta compared tween perceptions of their competitors' platforms to understand "tween product needs,"[418] noting that tweens can "connect and have fun using existing apps, even though they're not made with a 10-to-12-year-old in mind."[419] Meta's takeaway was to "use entertainment/interest as a starting point for engagement" and to "highlight fitting in."[420]

346. In 2019, Meta conducted a series of interviews in Los Angeles and Denver with tween friend groups, friend pairs, and individuals.[421] Meta used this research to craft "product recommendations" to appeal to tweens, suggesting features to help "decrease friction in the digital interaction funnel."[422] The recommendations included developing ways to "provide automatic signals that indicate whether friends are available to interact," "[e]nable tweens to instrumentally signal their availability," "[p]rovide light conversations starters that tweens can use to test the reciprocity of an interaction (e.g., poking, waves)," and "build in a way that enables quick communication across all messaging modalities."[423]

347. Meta's interest, efforts, and success in expanding the presence of its platforms in children's lives is clear. Given the delicate, developing nature of the young brain and Meta's creation of social media platforms designed to promote repetitive, compulsive use, it is not surprising that American society is now grappling with the ramifications of Meta's growth-at-any-cost approach. In a candid moment, a Software Engineer at Meta admitted: "It's not a secret that we've often resorted to aggressive tactics in the name of growth, and we've been pretty unapologetic

[417] Haugen_00023849 at Haugen_00023850.
[418] Haugen_00023849 at Haugen_00023888.
[419] Haugen_00023849 at Haugen_00023886.
[420] Haugen_00023849 at Haugen_00023888.
[421] Haugen_00024450 at Haugen_00024450.
[422] Haugen_00024450 at Haugen_00024466.
[423] *Id.*

about it."[424]

348. Meta has studied features and designs from its other platforms to make Instagram as attractive and addictive as possible to young users. Meta's flagship platform Facebook was the original testing ground for many of Instagram's addictive and otherwise harmful features, which the two platforms share to this day. This feature overlap is no accident: it represents a conscious strategy adopted by Meta to keep social media users hooked on its "family" of platforms for their entire lives.

349. From the beginning, both the Facebook and Instagram platforms have exploited vulnerabilities in human psychology to addict users and maximize user time and engagement. Facebook's first President, Sean Parker, summed up the devastating impact of this platform design in a 2017 interview:

> God only knows what it's doing to our children's brains. . . . The thought process that went into building these applications, Facebook being the first of them . . . was all about: 'How do we consume as much of your time and conscious attention as possible? And that means that we need to sort of give you a little dopamine hit every once in a while, because someone liked or commented on a photo or a post . . . . And that's going to get you to contribute more content, and that's going to get you . . . more likes and comments. . . . It's a social-validation feedback loop . . . exactly the kind of thing that a hacker like myself would come up with, because you're exploiting a vulnerability in human psychology. . . . The inventors, creators — it's me, it's Mark [Zuckerberg], it's Kevin Systrom on Instagram, it's all of these people — understood this consciously. And we did it anyway.[425]

Tellingly, many tech leaders, including individuals with inside knowledge of the defects of Meta's social media platforms, either ban or severely limit their own children's access to screen time and social media.[426] Such leaders in the field include Tim Cook and former Facebook executives Tim

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[424] Haugen_00000934 at Haugen_00000934.

[425] Mike Allen, *Sean Parker unloads on Facebook: "God only knows what it's doing to our children's brains*," Axios (Nov. 9, 2017), https://www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792.

[426] Samuel Gibbs, *Apple's Tim Cook: "I Don't Want My Nephew on a Social Network,"* The Guardian (Jan. 19. 2018), https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-

Kendall and Chamath Palihapitiya.[427]

3. Meta intentionally designed its platforms to addict children and adolescents.

350. Meta designed Facebook and Instagram with harmful features that users encounter at every stage of interaction with the platform and that led to serious problems in Plaintiffs' schools and communities. These include, but are not limited to (a) recommendation systems, fueled by extensive content-agnostic user data, which are designed to promote use in quantities and frequency harmful to youth; (b) features that prey upon children's desire for validation and need for social comparison; (c) features that are designed to create harmful loops of repetitive and excessive platform usage; (d) lack of effective age-verification mechanisms, despite having the ability to implement them; (d) inadequate parental controls and facilitation of unsupervised use of the platforms; and (e) intentionally placed obstacles to discourage cessation of use of the platforms.

a. Meta has failed to implement effective age-verification measures to keep children off Facebook and Instagram

351. Even as Meta has carefully horded data about the children using its products for its own business purposes, Meta has refused to use the data it collects to mitigate harm to child users by implementing effective age verification tools. Meta purports to ban children under the age of 13 from using its products but, at all relevant times, has lacked any reliable form of age verification to prevent such use.

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network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society.

[427] Samuel Gibbs, *Apple's Tim Cook: "I Don't Want My Nephew on a Social Network"*, The Guardian (Jan. 19. 2018), https://www.theguardian.com/technology/2018/jan/19/tim-cook-i-dont-want-my-nephew-on-a-social-network#:~:text=The%20head%20of%20Apple%2C%20Tim,it%20was%20announced%20on%20Friday; James Vincent, *Former Facebook Exec Says Social Media is Ripping Apart Society*, The Verge (Dec. 11, 2017), https://www.theverge.com/2017/12/11/16761016/former-facebook-exec-ripping-apart-society.

352. Other online platforms employ substantially more effective and reliable age verification schemes before granting children access. These include, but are not limited to, connecting new users to parents' accounts, credit card verification, verification by presentation of an identification card (or other government-issued document), or linking a verified undergraduate or professional email, among other methods. Meta chooses not to implement any of these systems, even though they are technologically feasible, used by many companies across the Internet, and could be employed at relatively low cost. Indeed, Meta itself uses an age verification technique for its Facebook Dating product that it claims can verify ages without identifying users—but does not use the same technology at account startup for Facebook or Instagram.[428]

353. Underscoring the fig leaf nature of Meta's age "verification" system, for most of its history, Meta has known that children under the age of 13 are using its platforms. This was clearly evidenced by, for example, posted photos of elementary school age users. Yet as long as a new user simply clicked a box confirming that they were at least 13 years old, Meta asked no questions, engaged in zero follow-up, and let the user access the platforms indefinitely. This did not go unnoticed by certain of its employees who criticized the company's policy: "[I]f we collected age on IG we could age-gate this [referring to suicide and self-injury ("SSI") posts] . . . and if we used age classifiers we could detect under 13s and kick them off the platform."[429]

354. Indeed, Meta did not ask for the age of new Instagram users until December 2019, after Instagram had been on the market for more than seven years.[430] Even then, Meta did not ask *existing* users to disclose their ages, effectively grandfathering in underage users. Indeed, an internal

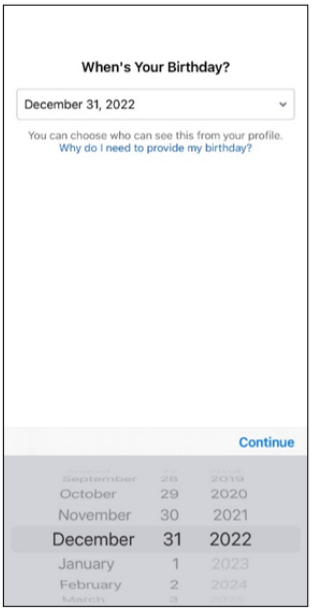
[428] Erica Finkle, Meta Director of Data Governance, *Bringing Age Verification to Facebook Dating*, Meta (Dec. 5, 2022), https://about.fb.com/news/2022/12/facebook-dating-age-verification/.https://about.fb.com/news/2022/12/facebook-dating-age-verification/. https://about.fb.com/news/2022/12/facebook-dating-age-verification/.

[429] META3047MDL-003-00086015 at META3047MDL-003-00086015.

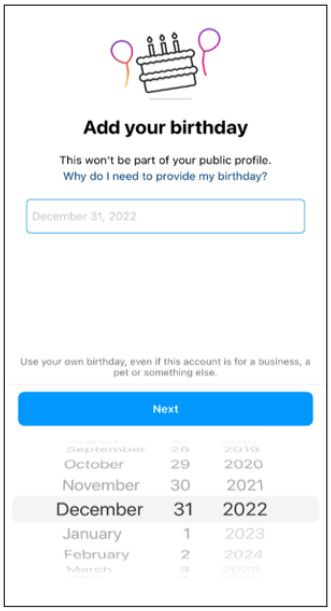
[430] META3047MDL-003-00157020 at META3047MDL-003-00157020 ("[W]e have very limited age information on IG (we only started collecting age in December at registration)").

document confirms that, in April 2020, Meta had an age for only approximately 55% of its users,[431] which Meta did not attempt to correct until August 30, 2021. Meta did not begin requiring age verification for users who attempt to change their age from under to over 18 until 2022.[432]

355. But even this minimal age verification procedure is toothless. Even now, over two years after Frances Haugen testified before Congress regarding the harm Meta knowingly causes to minors, users are only asked to self-report their birthday when signing up for a Facebook or Instagram account:



(Facebook, January 2023)

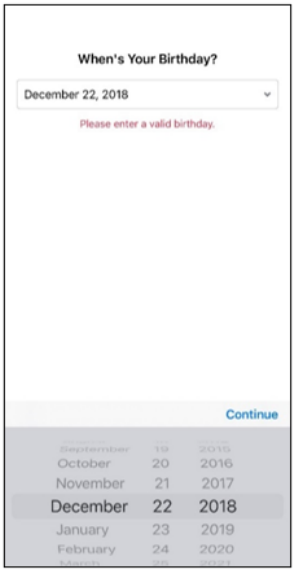


(Instagram, January 2023)

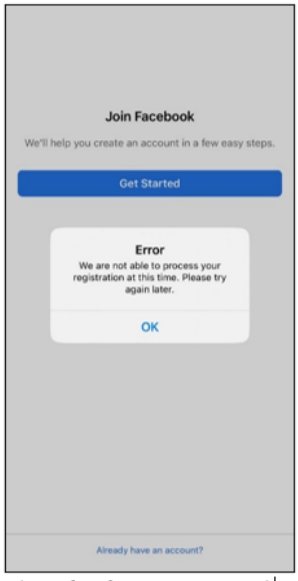
356. If users report a birthday indicating they are less than 13 years old, the platforms redirect them to the messages below:

[431] META3047MDL-003-00042548 at META3047MDL-003-00042551- META3047MDL-003-00042552.

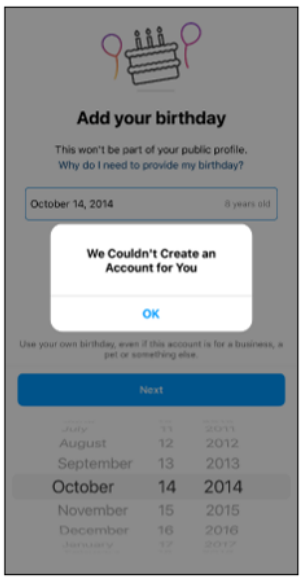
[432] Instagram, *Introducing New Ways to Verify Age on Instagram*, Meta (June 23, 2022), https://about.fb.com/news/2022/06/new-ways-to-verify-age-on-instagram/. Meta explained the choice of age by saying that they provide users under 18 with an experience that is appropriate for their age, including "preventing unwanted contact from adults they don't know." However, as described below, each week hundreds of thousands of children are inappropriately contacted by adults on Instagram.



(Facebook, January 2023)



(Facebook, January 2023)



(Instagram, January 2023)

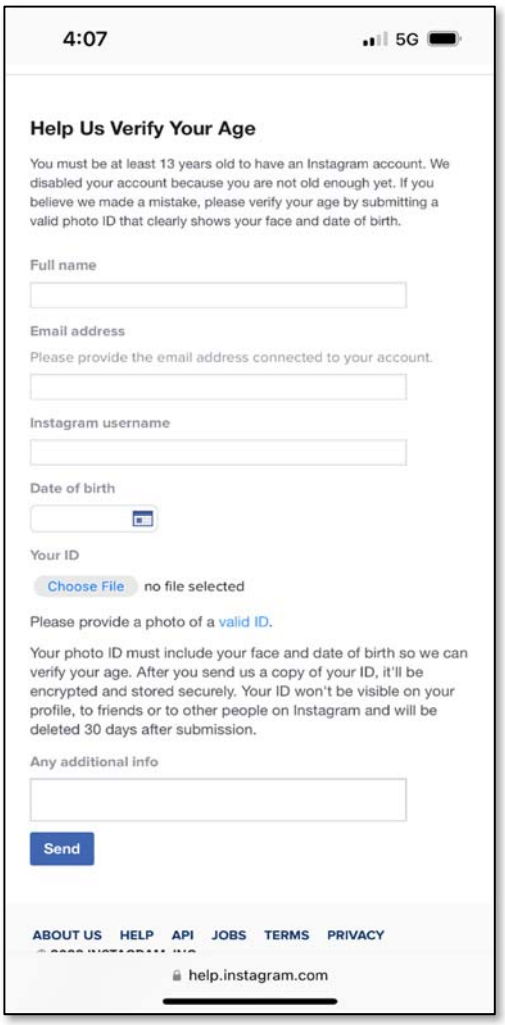
357. After acknowledging this message, users can immediately reattempt to create an account and input an eligible birthday. When a user enters an eligible birthday, there are no restrictions to creating an account other than having it linked to a cell phone number or an email. In a matter of seconds—without meaningful age verification, identity verification, or parental consent—children of all ages can create a Facebook or Instagram account, then immediately become subject to recommendation systems designed to induce endless interaction with algorithmically tailored user experiences, all while their behavior is closely but inconspicuously monitored, without actual consent, to make a progressively more addicting experience.

358. There can be no serious debate about whether Meta has more effective age verification tools at its disposal. Meta has internal age identification models, such as the "teen_non_teen" model or the "dim_ig_age_prediction_adult_classifier" that can estimate a user's age.[433] Although this tool

[433] Haugen_00003463, at Haugen_00003463- Haugen_00003465; *see also* Ibrahim Mousa Al-Zaubi, Assef Jafar, & Kadan Aljoumaa, *Predicting customer's gender and age depending on mobile phone data*, 6 Journal of Big Data 18 (Feb 19, 2029), https://journalofbigdata.springeropen.com/articles/10.1186/s40537-019-0180-9 (discussing generally how a similar age prediction algorithm works).

could be used to identify when a user is under 13 (or, for that matter, if a user is a teenager and should therefore be safeguarded from particularly injurious aspects of Meta's platforms), Meta does not use this safeguard.[434]

359. Perversely, Meta does employ age verification on Instagram—but only when a user self-reports they are *younger* than 13. In that case, Meta provides a user with what amounts to an appeal right: "if you believe we made a mistake, please verify your age by submitting a valid photo ID that clearly shows your face and date of birth."



360. At best, this reflects a completely upside-down view of Meta's duty of care, using age

[434] Haugen_00003463, at Haugen_00003463-Haugen_00003465.

verification to screen *in* minor users but not to screen them *out*. At worst, Meta's "are you sure you're really under 13" question invites pre-teens to falsify their identification to gain access to Instagram. Similarly, Meta imposes unnecessary barriers to the removal of accounts created by children under 13. Since at least April 2018, Instagram and Facebook both accept reports of accounts created by children under 13.[435] However, before an Instagram or Facebook account is deleted, Meta requires verification that the child is under the age of 13. For example, Instagram's reporting page states:

> If you're reporting a child's account that was made with a false date of birth, and the child's age can be reasonably verified as under 13, we'll delete the account. You will not get confirmation that the account has been deleted, but you should no longer be able to view it on Instagram. Keep in mind that complete and detailed reports (example: providing the username of the account you're reporting) help us take appropriate action. If the reported child's age can't reasonably be *verified as under 13*, then we may not be able to take action on the account.[436]

Facebook's reporting page contains almost identical language.[437] By choosing to implement age verification only before deleting accounts of users suspected to be children, but not when those accounts are first created, Meta makes it more difficult to prove a user is under age 13 than it does for a minor to pretend to be over 13.

361. It is unclear how long Meta takes to delete a reported account, if it does so at all. Meta has ignored some parents' attempts to report and deactivate accounts of children under 13 years old.

362. Between the first quarter of 2019 and the second quarter of 2023, Meta received over 1.1 million reports of under-13 users on Instagram via its underage reporting webform and in-app

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[435] *Report an Underage User on Instagram*, Instagram, https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOwkalXtfJ1ft9O09Q; *Report an Underage Child,* Facebook, https://www.facebook.com/help/contact/209046679279097

[436] *Report an Underage User on Instagram*, Instagram, https://help.instagram.com/contact/723586364339719?fbclid=IwAR3E5rZo8zvp9Uw3giRoQRMy5qFmIGpy-NOLLtpctHOwkalXtfJ1ft9O09Q.

[437] *Reporting an Underage Child*, Facebook, https://www.facebook.com/help/contact/209046679279097.

underage reporting process. These processes were only a few of many ways that Meta acquired actual knowledge of under-13 users on its Social Media Platforms. Despite this actual knowledge, Meta disabled only a fraction of those accounts and routinely continued to collect children's data without parental consent.

363. Meta even has a policy of automatically ignoring certain external reports that Instagram users are under 13 years old. After Meta receives a report that an Instagram user is under 13 years old, Meta's policy is to allow the user to continue using their Instagram account and disregard the report if the account does not contain a user bio or photos.

364. Zuckerberg has stated that he believes children under 13 should be allowed on Facebook,[438] so Meta's lax approach to age verification appears to reflect true company policy.

365. Meta's approach to underage users has consistently been one of feigned ignorance. On October 10, 2021, Senator Marsha Blackburn reported that a young celebrity told Instagram CEO Adam Mosseri that she had been active on Instagram since she was eight. Mosseri replied that he "didn't want to know that." [439]

366. But Meta *does* know that its age-verification protocols are inadequate to keep minors off Facebook and Instagram. According to a May 2011 ABC News report, "about 7.5 million [Facebook] users in the U.S. are under the age of 13, and about 5 million are under the age of 10."[440] Meta knows through retrospective cohort analyses that "up to 10 to 15% of even 10-year-olds in a

[438] Kashmir Hill, *Mark Zuckerberg Is Wrong About Kids Under 13 Not Being Allowed on Facebook* (May 20, 2011), https://www.forbes.com/sites/kashmirhill/2011/05/20/mark-zuckerberg-is-wrong-about-kids-under-13-not-being-allowed-on-facebook/?sh=2ea85e825506.

[439] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[440] Ki Mae Heussner, *Underage Facebook Members: 7.5 Million Users Under Age 13*, ABC (May 9, 2011), https://abcnews.go.com/Technology/underage-facebook-members-75-million-users-age-13/story?id=13565619.

given cohort may be on Facebook or Instagram."[441]

367. Meta knows that its chosen method of registration does not adequately protect minor users from reporting inaccurate and implausible age information. As one product engineer cautioned while analyzing the age of Facebook users, "Don't believe anything in the stated age graph for under 30. They are all mixed up … We have way more people who say they are born in the early 90's than exist in the population."[442]

368. Meta's internal studies confirm its knowledge that kids, tweens, and teens use its platforms. In one study, Meta researched children as young as seven and found that, in the fifth grade, "social media becomes a part of their digital diet."[443] Moreover, they identified that 24% of children ages 7-9 and 38% of tweens ages 10-12 have at least one social media account,[444] and specifically stated that Instagram's perceived user base included middle schoolers.[445]

369. Another internal post reveals Meta's knowledge of the widespread use of Instagram by preteens, as well as its targeting of children under the age of 13. In a study from around January 2021, titled "The Role of the Teen in Shaping a Household's Experience of Instagram," Meta expressed a desire to utilize teenagers as the doorway into capturing an entire household of users, including children under age 13.[446] The post explains that teens can be used to teach their preteen siblings how to join while underage, and to help them develop a habit of using and posting indiscriminately.[447] The article expresses concern that some teens may teach their preteen siblings

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[441] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[442] Haugen_00012303 at Haugen_00012314.

[443] Haugen_00023849 at Haugen_00023910.

[444] Haugen_00023849 at Haugen_00023866.

[445] Haugen_00023849 at Haugen_00023879.

[446] Haugen_00016728 at Haugen_00016728.

[447] Haugen_00016728 at Haugen_00016728-Haugen_00016732.

to post less, and recommends that Meta combat this by changing perceptions among teens so that they will instruct their preteen siblings to use Instagram more spontaneously.[448] Key discussion points from this document include:

> Teens strongly influenced preteens' understanding of what and how frequently to share on IG, even discouraging them from sharing . . . . We need to understand IG myths circulating among teens to inform comms and shift the perception of sharing on IG. . . .
>
> Historically, teens have been a key focus for IG. Acquiring and maintaining them continues to be a priority, reflected by investment in new features like Reels. Additionally, capturing the teen user cohort on IG is critical as we think about Instagram's role within the broader family of apps. . . . [Teens] are typically the first in a household to join. In many cases they're also critical to the onboarding process of parents and preteens alike. . . .
>
> Older teens were IG catalysts for preteens. Most preteens became curious about and wanted an IG account because of their older sibling. In some cases, preteens even relied on their older sibling to create and set up their account, seeking their guidance on a username, profile, and accounts to [F]ollow. . . . If we're looking to acquire (and retain) new users we need to recognize a teen's influence within the household to help do so, and the potential ripple effect. . . .[449]

370. But Meta has not used its copious knowledge about preteen engagement with its platforms to comply with the law. Far to the contrary, it has leveraged its research to manipulate households and target preteens through their siblings.

b. <u>Facebook's and Instagram's parental controls are ineffective</u>

371. Once a child has begun scrolling on Meta's platforms, they can use the platforms without any form of parental control or guidance.

372. Despite its obligations under COPPA, Meta does not require "verifiable parental consent" for minors to use Facebook or Instagram. Instead, Meta has chosen to avoid its obligations by *purporting* to ban children younger than 13, despite knowing that such children continue to

[448] Haugen_00016728 at Haugen_00016736-Haugen_00016740.

[449] Haugen_00016728 at Haugen_00016728- Haugen_00016734.

access and use its platforms due to its inadequate age verification methods.

373. Meta's lackadaisical approach to keeping young children off its products, as required by COPPA, or in any way recognizing that children have different social and emotional needs is clear from its internal documents. To Meta, "the COPPA line is simple: we treat 13+ like other users and ask younger people not to use our products."[450]

374. While COPPA requires parental consent only for users under the age of 13, a reasonable company that knows or should have known its products are harmful to adolescents would require parental consent for *any* minor to use them. But Meta's lack of parental consent requirement for any underage users robs parents of an important way to protect their children from the harms caused by Instagram and Facebook.

375. Meta has chosen to not: (a) require children's accounts on Facebook and Instagram to be linked to their parents', as it does with another one of its platforms—Messenger Kids;[451] (b) send reports of a child's activity to parents; (c) allow parents to implement maximum daily usage limitations or to prohibit use during certain hours (e.g., school and sleep hours); (d) notify parents about interactions with accounts associated with adults; or (e) require parental approval before a minor can follow new accounts.

376. Controls like these would enable parents to track the frequency, time of day, and duration of their child's use, and identify and address problems arising from such use. It is reasonable for parents to expect that social media companies that actively promote their platforms to minors will undertake reasonable efforts to notify parents when their children's use becomes excessive, occurs overnight, or becomes otherwise problematic. Meta could feasibly design Instagram and Facebook to address these concerns at negligible cost.

377. Meta creates a foreseeable risk to children in Plaintiffs' schools and communities

[450] Haugen_00017238 at Haugen_00017240.

[451] Loren Chang, *Introducing Messenger Kids, a New App for Families to Connect*, Meta (Dec. 4, 2017), https://about.fb.com/news/2017/12/introducing-messenger-kids-a-new-app-for-families-to-connect/.

through its design choices, and then attempts to shift the burden of protection from those platforms onto parents. Meanwhile, Meta intentionally designs Facebook and Instagram to aid children's efforts to undermine parental supervision. For example, Instagram and Facebook allow children to create a limitless number of anonymous accounts without parental approval or knowledge and allows kids to block parent profiles.[452] On Instagram, children can post stories to "Close Friends Only," i.e., to a select group of followers, excluding their parents. On Facebook, children can place their parents on a "restricted list" of people who are unable to view their stories. Meta has intentionally designed many aspects of Instagram and Facebook to undermine parental supervision in an effort to maximize teen usage: "If Mom starts using an app all the time, the app can lose a 'cool' factor, if we're not conscious of separation."[453] "We should be thinking about how parents being on Instagram might effect [sic] graph management and teen engagement over time. Discovery/usage of additional accounts could prove critical for authentic sharing by teens."[454]

378. As one internal document described the issue:

> [A]re teens able to maintain spaces that feel sacred to them (and their friends) or do we see decreased usage or new behavior patterns emerge as household members join? . . . Preservation of protected spaces will require: [1] Learning how to create spaces within the app where teens feel like they have privacy from both their own parents but also privacy from non-peers (e.g. Aunt Sally, neighbor down the street, teachers, etc.). [2] Finding

[452] In 2018, Meta observed that "the participation rate of multiple account switching (basically the equivalent of Finstas) [was] going up," with 36% of teens engaging in multiple account switching. Haugen_00017698 at Haugen_00017784. "Finsta," a widely used slang term, is a contraction of "fake" and "Insta" (short for Instagram). Caity Weaver and Danya Issawi, *'Finsta,' Explained*, N.Y. Times (Sept. 30, 2021), https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html. "It is neither an official designation nor a type of account offered by Facebook. Rather, it is a term many users ascribe to secondary accounts they create for themselves on Instagram, where their identities — and, often, the content of their posts — are obscured to all but a small, carefully chosen group of followers." Caity Weaver and Danya Issawi, *'Finsta,' Explained*, N.Y. Times (Sept. 30, 2021), https://www.nytimes.com/2021/09/30/style/finsta-instagram-accounts-senate.html.

[453] Haugen_00016728 at Haugen_00016735.

[454] Haugen_00011969 at Haugen_00011974-75. "Graph management" apparently refers to efforts by a user to unfollow accounts, i.e. "prun[e]." META3047MDL-003-00146492 at META3047MDL-003-00146495; META3047MDL-003-00178437.

> opportunities, such as [“]close friends[”] where teens have their own, protected peer communities. [3] Understanding the value of certain features being more complex (i.e. indirectly made for teens because more challenging for parents or preteens). Both snapchat and TikTok are somewhat confusing to parents, in turn affording teens a protected place to play/engage.[455]

379. Meta’s internal documents recognize that parents are largely ill-equipped to protect children from its platforms. As one employee asserted in the discussion of a focus group survey regarding the mental health impact of Meta’s platforms on teenagers:

> The other big reason that parents are not a source of support has to do with parents’ ability (or really, their inability) to understand what adolescence in the age of social media looks and feels like. The parents of today’s teens came of age before social media, so they don’t know and *can’t* know what it’s like to live in what feels like a constant spotlight. When today’s parents were teens, social comparison was much more limited both in terms of scope and scale. Teens today compare themselves to many more people, much more often, and about more parts of life than their parents did during their adolescence. In addition, today’s parents were able to turn it off when they went home, while teens feel compelled to be on social media all the time.[456]

380. When employees have raised the possibility of additional safeguards — “could we offer a parental control feature so that parents and kids could learn and cope together?”—Meta has consistently ignored them.[457]

381. Finally, Meta has failed to develop effective reporting tools to deal with abuse directed at underage Instagram and Facebook users. Meta does not have a phone number that a parent, caregiver, teacher, school counselor, school administrator, or child can call to report such abuse in real-time, and its online reporting mechanisms lack immediate response protocols, regardless of the seriousness of the harm at issue. In fact, Meta has, in some instances, declined to respond to reports filed through its online reporting tool, citing technical issues.

[455] Haugen_00016728 at Haugen_00016735.

[456] Haugen_00017069 at Haugen_00017173.

[457] *Id.*

c. Facebook's and Instagram's algorithms maximize engagement, promoting use at levels and frequency that is harmful to kids

382. Meta has invested its vast resources to intentionally design Facebook and Instagram to be addictive to adolescents, all the while concealing these facts from its users and the public, including Plaintiffs and those in Plaintiffs' schools and communities.

383. As discussed above, in their original forms, Meta's Facebook and Instagram feeds were organized chronologically, meaning that a particular user's feed was organized according to when material was posted or sent by the people the user followed. In 2009, Meta did away with Facebook's chronological feed in favor of engagement-based ranking; in 2016, it did the same on Instagram. This "engagement-based" system meant that posts that received the most likes and comments were highlighted first for users. But facing declining engagement, Meta redesigned its algorithms once again in or around early 2018. This change prioritized "meaningful social interaction" ("MSI"), with the goal of using data collected to show users feeds with which they were most likely to engage. The MSI-oriented algorithms purportedly emphasize the interactions of users' connections, e.g., Likes and comments, and give greater significance to the interactions of connections that appear to be closest to users based on user data. Thus, the current algorithms consider a post's Likes, shares, and comments, as well as a respective user's past interactions with posts with similar user-reaction characteristics and displays the post in the user's feed if it meets these and certain other benchmarks.

384. While Meta has publicly attempted to cast MSI as making time spent on its platforms more "meaningful," MSI was actually just another way for Meta to increase user engagement on Instagram and Facebook. While the feature increases the likelihood that an interaction will be "meaningful" by Meta's definition—more likes, comments, and interactions—it does not consider whether recommended content is "meaningful" to the user. This sets up users who may have reacted negatively to upsetting or dangerous posts to see more of the same. That, in turn, can lead to what Meta itself calls a "horrible feedback loop / downward spiral"[458]—with negative reactions leading

[458] META3047MDL-003-00068860 at META3047MDL-003-00068861.

to Meta's recommendation systems presenting similar posts because the system is simply seeking out reactions, without any understanding of what they are directed to or what they signify.

385. In internal discussions, Meta employees acknowledged the fact that Meta's Recommendation Algorithms tend to pull young users into "negative spirals" and "feedback loops" whereby the algorithmic sequencing of content has detrimental effects on the well-being of young users. For example, in one internal communication discussing potential "[c]ontent policies" for the unlaunched "Instagram Youth" Platform, Meta employees expressed concern with the "well-being challenge" of "content on IG triggering negative emotions among tweens and impacting their mental well-being (and) our ranking algorithms taking [them] into negative spirals & feedback loops that are hard to exit from."

386. Much of what Meta shows users is material that they did not sign up for but cannot avoid. In a 2019 internal document, a Meta data scientist explained: "users have told us the pages they would like to see content from, but we often override those explicit preferences because our predictions of what will get shared and engaged with disagree."[459] This same employee pointed to additional data demonstrating that users get relatively little connected posts (from pages they chose to like) as opposed to unconnected posts that are reshared by others, even as Meta knows that such material is less valued by users.[460]

387. Meta also optimizes the design of its platforms for overall "network value"—that is, what will get the most downstream engagement by other users—rather than what that specific user would like.[461] As one Meta employee put it, "we show things to users that we think they have a small chance of sharing, leading to comments between people who see it downstream over things

[459] Haugen_00021247 at Haugen_000212448; *see also* Haugen_00006798 at Haugen_00006799 (Meta Research Scientist in 2019: "it's at best unclear whether users 'want' us to put unconnected stories in their feed, even if they like some of them.").

[460] Haugen_00021247 at Haugen_000212448.

[461] Haugen_00021247 at Haugen_00021251.

that have a greater chance of being explicitly liked by that user."[462]

388. Through these algorithms, Meta intentionally supplants the material that users have elected to see with items that it believes will drive more use and engagement. Thus, the platforms that Meta touts as "[g]iv[ing] people the power to build community and bring[ing] the world closer together," are designed in a way that prioritizes not social connection but platform use, even when the cost is the health and safety of young people.[463] The result for Meta is an increase in its bottom line. The result for young users is platforms that are so addictive that they return again and again, even when their mental and physical health suffers greatly.

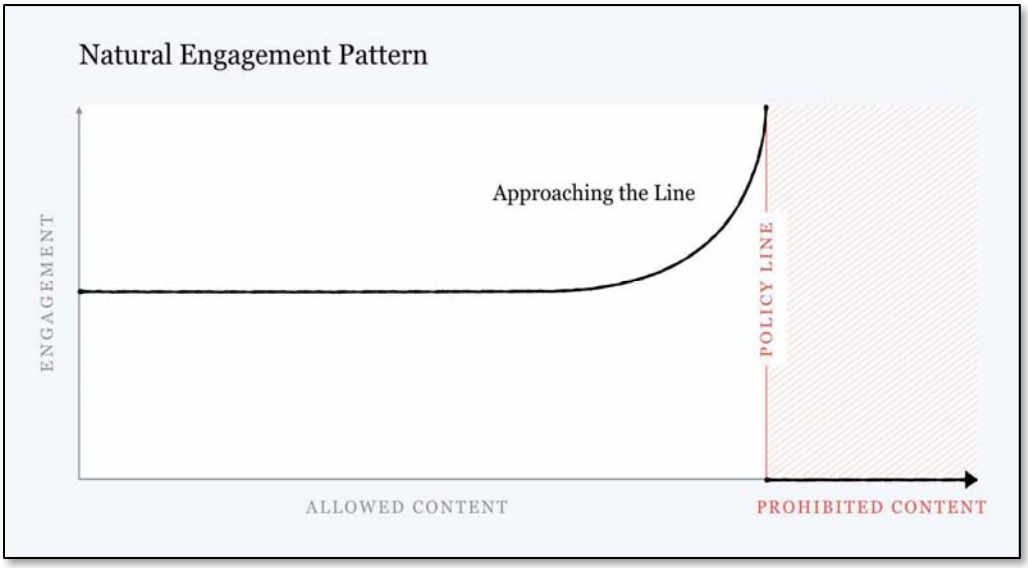
389. Meta knew that its engagement-based ranking algorithm (and its subsequent, iterative MSI ranking algorithm) was structured so that posts that produce intense reactions (i.e., strong engagement) triggers amplification by the apps. This propels users into tailor-made reactive experiences, favoring posts that generate engagement from the specific user because they are extreme in nature. Zuckerberg publicly recognized this in a 2018 post, in which he demonstrated the correlation between engagement and sensational content that is so extreme that it impinges upon Meta's own ethical limits, with the following chart:[464] While Zuckerberg went on to claim that Meta had designed its algorithms to avoid this natural propensity of engagement-based algorithms, his claim to the public is belied by the extensive internal and external research indicating Meta's

[462] Haugen_00021247 at Haugen_00021251.

[463] Meta, *Mission Statement*, Meta, https://about.meta.com/company-info/.

[464] Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook, https://www.facebook.com/notes/751449002072082/.

platforms did amplify extreme material.



390. Other documents show that Meta's employees also discussed their motive for changing the design of the algorithms—namely, that users began to interact less with the platform, which became a worrisome trend for Meta's bottom-line. Meta's engagement-based algorithm (including its MSI variant) was designed to drive more engagement, which, in turn, helped Meta sell more of the digital ads that generated most of their revenue. In 2016, one Facebook Tech Lead wrote: "[W]e only cared about things like time spent, open links, etc. That's what we optimized for. That's what we used to define success and failure. And that's the problem."[465]

391. To predict what posts will capture users' attention, Meta intentionally designed its MSI-focused algorithms to collect and analyze user behavior data, including data from adolescent users, such as a user's profile information, what posts the user reports, what the user posts, posts viewed, posts engaged with, navigation paths, watch time, hover time (the amount of time a user viewed a piece of content), whether a user mutes or unmutes a video, and whether a user makes a full video screen, among other data.[466] The aspects of this data relevant to Plaintiffs' Complaint do not take into account the actual message of the posts a user interacts with, instead focusing only on

[465] Haugen_00001033 at Haugen_00001033.

[466] Haugen_00017177 at Haugen_00017177.

the fact of the interaction, consistent with Meta's laser-like focus on increasing the time users spend on their platforms.

392. Meta also tracks and utilizes data from various other sources, such as users' off-platform activities and the activities on websites that contain Facebook or Instagram "Like" or share buttons or incorporate a Facebook Pixel.[467]

393. Meta's algorithmic ranking is utilized in a variety of platform features that are designed by Meta to maximize user engagement. For example, the Instagram platform consists primarily of a never-ending and user-specific Feed. In the app's "Home" pane, this feed includes (but is not limited to) photos and videos posted by Instagram users that the user has elected to "follow," as well as recommended photos and videos. In the app's "Explore" pane, the feed consists almost exclusively of photos and videos from users the user has *not* elected to "follow." In both cases, Instagram's recommendation system evaluates data about each users' behavior to predict what posts will maximize their attention and time spent using the platform—not on the basis of the actual information conveyed by the posts but by combing through data about users' reactions to posts and connections and correlations between users.

394. Other "recommendation" system features that are similarly algorithmically powered to drive compulsive use include Facebook's Newsfeed, Instagram's Feed, Instagram Reels, Facebook Reels, Facebook Watch (and its "For You" page), Accounts to Follow, People You May Know (introductions to persons with common connections or backgrounds), Groups You Should Join, and Discover (recommendations for Facebook groups to join).

395. While Meta has publicly attempted to cast MSI as making time spent on its platforms more "meaningful," MSI was just another way for Meta to increase user engagement by weaponizing user data to fuel its addition machine. MSI only increases the chance that platform interaction will be "meaningful" by Meta's definition—more "Likes," comments, and interactions,

[467] Allen St. John, *How Facebook Tracks You, Even When You're Not on Facebook*, Consumer Reports (April 11, 2018), https://www.consumerreports.org/privacy/how-facebook-tracks-you-even-when-youre-not-on-facebook-a7977954071/.

the data points that drive Meta's bottom line—it does not consider whether it will be meaningful to users. This sets up users who may have rejected upsetting or dangerous posts to see more of the same, because any interaction with a post prompts more posts with similar user behavior data indicators, resulting in what Meta itself calls a "horrible feedback loop / downward spiral."[468] Also referred to as "fee[d]ing the spiral,"[469] the MSI algorithm increases the likelihood that a user sees posts "that makes them feel bad, they engage with it [even if only to reject it], and then their [user experience] is flooded w[ith] it."[470] Meta recognizes that Instagram users at risk of suicide or self-injury—information that it collects—are more likely to "encounter more harmful suicide and self-injury content (through explore, related, follower suggestions, etc),"[471] not because Instagram's recommendation systems are seeking out posts about those topics, but because the system is combing through user behavior data to find the post that is most likely to keep the user on Instagram.[472] As a result of this prioritization of engagement above all else, any harmful feeling or impulse that keeps users on Instagram longer it is amplified by Instagram—turning the platform into a mechanical echo chamber screaming their most upsetting thoughts back at them.

396. Meta conducted research into dangerous spirals—dubbed the "Rabbithole project"—yet it did nothing to stop harm to its young users.

397. Meta has been clear about the problem: for young users, "our recommendations

[468] META3047MDL-003-00068860 at META3047MDL-003-00068861.

[469] META3047MDL-003-00121808 at META3047MDL-003-00121808. Meta employees sometimes refer to this "spiral" as a "rabbit hole." *See also* META3047MDL-003-00077939 at META3047MDL-003-00077939.

[470] META3047MDL-003-00121808 at META3047MDL-003-00121808.

[471] META3047MDL-003-00068863 at META3047MDL-003-00068905, META3047MDL-003-00068878; *see also* META3047MDL-003-00042548 ("[P]eople who are suffering from depression and self-harm go down IG, and explore functionality compounds this issue.").

[472] META3047MDL-003-00068863 at META3047MDL-003-00068905, META3047MDL-003-00068878; *see also* META3047MDL-003-00042548 ("[P]eople who are suffering from depression and self-harm go down IG, and explore functionality compounds this issue.").

algorithms will start pushing you down a rabbit hole."[473] They have been clear about potential solutions: targeted changes to the algorithm do lead to a "meaningful drop in exposure" to problematic material.[474] But they have been resistant to making changes—including any change to collect less data to fuel its recommendation algorithms—for the starkly profit-minded reason that such tweaks "came with a clear engagement cost."[475]

d. Facebook and Instagram are designed to promote addictive use by child users

398. In addition to behavior-driven recommendation systems, Facebook and Instagram rely on a series of design features that are carefully calibrated to exploit young users' neurobiology to drive user engagement (and thereby drive data collection and advertising revenue). These features promote addictive engagement. Meta understands this, with internal studies reflecting the fact that "teens tell us that they try to take a break but feel compelled back onto the app."[476] But it does not warn prospective or current users about the following features or their safety risks, which are particularly harmful to children and result in serious problems in Plaintiffs' schools and communities. Instead, Meta continues to be driven by a belief that for "long-term retention" "the young ones are the best ones. . . . You want to bring people to your service young and early."[477]

399. *First*, Meta's recommendation systems and algorithms exploit its exhaustive content-agnostic data point about users' interaction with Meta's platforms—from click patterns to location to social networks—to maximize the amount of time users spend on Defendants' platform and otherwise fuel Meta's addiction and advertising machine.

400. *Second*, Meta programs IVR into its platforms. Behavioral training via intermittent

[473] META3047MDL-003-00077939; *see also* META3047MDL-003-00068860 at *60 (users "seeking" bad experiences can "get into a rabbithole of getting more and more bad content on our surfaces."); META3047MDL-003-00087111 at 7112 (acknowledging that a majority of "negative experiences" come from algorithmically-powered features like explore and hashtags).

[474] META3047MDL-003-00077939.

[475] *Id.*

[476] META3047MDL-003-00093303.

[477] META3047MDL-003-00085000.

variable rewards keeps users endlessly scrolling in search of a dopamine release, oftentimes despite their desire to put their device down and move onto other activities. Children, who are less likely to have adequate impulse control than adults, are more susceptible to being drawn into this engineered flow state and more likely to grow dependent on Facebook or Instagram.

401. Facebook and Instagram utilize "Likes" and other notifications to control the release of dopamine in children. This feature, which Meta first created for Facebook and "introduced … to the world" in 2010, allows users to indicate that they approve a post, and visibly tallies the number of "Likes" any given post has earned.[478] Instagram launched in 2010 with the Like feature built-in—a user can "Like" a post simply by tapping a heart-shaped button.

402. As with a slot machine, users never know when a "Like" will come. Rather than delivering "Likes" in real time, Meta's platforms space out "Likes" (and other notifications such as comments and follows) to trigger on a schedule most likely to strengthen users' addiction, e.g., when they would otherwise end their use sessions. This design conditions users to stay on the platforms, including through social comparison and feedback seeking, creating detrimental effects on minors' physical and mental health. Indeed, Meta knows from its own internal research that the "Like" feature negatively impacts its younger users.[479] In that research, Meta acknowledged how much users care about the number of "Likes" they received.[480]

403. A June 2018 internal presentation even more explicitly recognized the dangers of dopamine manipulation, stating that that "[i]t may be a problem if Facebook seems rewarding [to users] based on the principle of unpredictability, while the inherent value of the reward is lacking." This includes "[n]otifications with little or no relevance, and that come at unpredictable times," "[p]rominent novel content that creates unwanted distractions," "[n]ews feed stories with seemingly

[478] Ray C. He, *Introducing new Like and Share Buttons*, Meta (Nov. 6, 2013), https://developers.facebook.com/blog/post/2013/11/06/introducing-new-like-and-share-buttons/.

[479] *See* Haugen_00008207 at Haugen_00008210 (explaining the stress and anxiety that likes cause teens).

[480] Haugen_0008207 at Haugen_0008232.

'random' content and unpredictable order," and "[o]ther use of unpredictable rewards, such as delays to load." The same document cautioned that dopamine "rewards available through Facebook may contribute to problems for some people."[481]

404. Despite this knowledge, Meta has expanded the "Likes" feature in both Facebook and Instagram. In December 2016, Meta began allowing users to "Like" comments, not just posts. In February 2022, Meta began allowing users to "Like" Instagram Stories.[482] Expanding the "Like" feature has intensified and multiplied the body of feedback that teen users receive (or don't receive) on their posts, preying on their desire to seek validation through comparison with others and acts as an additional agent of addiction.

405. Meta's research confirms that hiding "Likes" for all its users would decrease social comparison on the apps.[483] Yet its research also demonstrated that hiding "Likes" would decrease the rates at which users click on advertisements (and thereby lower Meta's ad revenue).[484]

406. For that reason—despite its ability to alleviate the negative impact of "Likes" on younger users—Meta chose only to implement ineffective, nominal measures as a public relations strategy. Meta first created the option for users to hide "Like" counts in May 2021, but it made this an optional setting left off by default.[485] Moreover, even when hidden, the number of "Likes" remains visible to the poster. These changes stop short of resolving the issue of negative social comparison and compulsive use that these score-keeping features cause.

407. *Third*, Meta has designed its video features to create and maximize users' flow state,

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[481] *State of Arizona, et al v. Meta Platforms, Inc. et al.* (N.D. Cal.) (Oct. 24, 2023) ("AG Compl.") para. 164 (ECF No. 495-1).

[482] Jhinuk Sen, *Instagram is adding Likes to Stories so it doesn't clog up people's inboxes*, Business Today (Feb. 15, 2022), https://www.businesstoday.in/technology/news/story/instagram-is-adding-likes-to-stories-so-it-doesnt-clog-up-peoples-inboxes-322661-2022-02-15.

[483] Haugen_0008207 at Haugen_0008232.

[484] Haugen_0008207 at Haugen_0008250.

[485] Meta, *Giving People More Control on Instagram and Facebook* (May 26, 2021), https://about.fb.com/news/2021/05/giving-people-more-control/https://about.fb.com/news/2021/05/giving-people-more-control/.

which also keeps them immersed in its platforms for longer periods of time. Video clips on Facebook Reels and Instagram Reels automatically play as users scroll, and automatically restart once scrolling is concluded. Reels cannot be paused, and tapping on the video will simply mute its audio. In addition, Meta imposes limits on the length of videos on Reels (currently 90 seconds, and at times as short as 15 seconds). These limits ensure that users do not become bored by long videos and end their sessions.

408. Meta designed the comment features of Reels to minimize any disruption to users' heightened flow state. The interface of Reels displays the "Like," "Comment," "Save," and "Share" buttons on the bottom right of tDhe screen. This placement avoids the milliseconds of delay or discomfort that could disrupt the flow state of right-handed users if placed elsewhere on the screen. Furthermore, these buttons are overlaid on top of the continuously playing clips, to eliminate any temporal or visual interruption during which a user might evaluate whether to continue using the platform. Likewise, when a user taps to view the comments on a Reel, the video's audio and the top quarter of the video continue to play behind the comments section. Again, this design feature keeps the user's attention on the feed.

409. In keeping with its study of IVR, Meta knows when to strategically interrupt a user's flow. Occasionally, while a video is playing, a comment from the video will appear on the bottom of the screen, even without the user tapping to view the comments section. These comments are selected based on the trove of user data that Meta algorithms collect and then displayed and timed intentionally to retain a user's attention by engaging with the comments section.

410. *Fourth*, Meta carefully calibrates the notifications it sends outside of the Facebook and Instagram apps, to maximize success in drawing back users who are not presently using the platforms. By default, Facebook and Instagram notify users through text and email about activity that might be of interest based on Meta's collection of user data, which prompts users to open and reengage with the platforms. However, Meta intentionally chooses to display only a limited amount of information in notifications, in order to trigger curiosity and manipulate the user to click or tap

through to the platform.[486] In December 2020, Meta internally acknowledged that the goal of this feature was to optimize engagement at the expense of value to users: "A few years ago we stopped sending out emails telling you what happened - e.g., telling you what your friend did - instead we just say 'someone comment [sic] on your post,' in the hope that you'll click through. This a clear value-engagement tradeoff."[487] Similarly, Meta stopped sending push notifications about friend activities, finding that, without notifications, users were forced to go to the platform itself to "check what's happening," thereby initiating a new session, increasing engagement, and improving Meta's bottom line.[488]

411. Meta pursued its strategy of maximizing engagement through notifications to young users despite knowing from its own internal research that notifications are psychologically harmful to young users by "caus[ing] inattention and hyperactivity among teens," and "reduc[ing] productivity and well-being."[489]

412. This was not an isolated finding. In an email thread from late 2017 and early 2018, then Vice President of Analytics Alex Schultz added, "fundamentally I believe that we have abused the notifications channel as a company." [490]

413. In a November 2019 internal presentation entitled "[Instagram Notification Systems Roadshow," Meta's research revealed that as a result of its "high volume" push notifications, young users are "overload[ed]," "overwhelm[ed]," and compelled to re-open Instagram repeatedly throughout the day.[491] Despite acknowledging users' concerns that Instagram's push notifications had the potential to "constantly harm . . . mental health," Meta deferred the "harmful effect on teen

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[486] *Clickbait*, Merriam-Webster Dictionary, https://www.merriam-webster.com/dictionary/clickbait.https://www.merriam-webster.com/dictionary/clickbait.

[487] Haugen_00010114 at Haugen_00010117.

[488] *Id.*

[489] Haugen_00021690 at Haugen_00021690.

[490] AG Compl. para. 321.

[491] META304/7MDL-003-00026502-0026503.

usage" for further investigation.[492]

414. Similarly, in May 2020, Meta conducted research entitled "Teen Fundamentals." This research showed that because "[a]pproval and acceptance are huge rewards for teens," notifications are highly effective in encouraging teens to continue coming back the Meta's platforms over and over again in hopes of receiving an "award," *i.e.,* some type of positive social validation.[493] Indeed, the research noted that teen brains have "insatiable" need for these "feel good dopamine effects."[494]

415. The harms caused by Meta's deployment of notifications to boost engagement are compounded by the fact that Meta sends push notifications in the middle of the night, prompting children to re-engage with Instagram and Facebook when they should be sleeping. Disturbed and in sufficient sleep is associated with poor health outcomes.[495]

416. But even with this knowledge, Meta makes changing notifications difficult (because it knows that they drive engagement and dollars) — many users reported that changing notification settings was "not . . . easy to do."[496]

417. *Fifth*, the "Stories" and live features of both Facebook and Instagram is designed to create artificial urgency so that users return to the apps more frequently.

418. "Stories" was added by Meta in response to the growing popularity of Snapchat with teenagers in 2016. "Stories" appear at the top of a user's home page upon opening the app and are available to view for only 24 hours, after which they disappear. This creates pressure to use the platform daily, or else risk missing out on dopamine-causing stimuli or social interactions. This feature is particularly addictive to adolescent users, like those in Local Government and School District Plaintiffs' schools and communities, who feel increased social pressure to view all their

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[492] META3047MDL-003-00026502-00026503.

[493] META3047MDL-003-00132793

[494] META3047MDL-003-00132762.

[495] Nat'l Inst. of Mental Health, *The Teen Brain: Still Under Construction* 6 (2011), http://www.ncdsv.org/images/NIMH_TeenBrainStillUnderConstruction_2011.pdf.

[496] Haugen_00011969-Haugen_00011983.

contacts' stories each day before they disappear, thus increasing their compulsive usage and potential addiction to the platform.[497] The ephemeral nature is a ploy intended to inspire urgent perusal, and it works.[498]

419. Meta's internal data shows that its "Stories" feature successfully increased the amount of time users spend on Instagram. Internal data from 2018 touted statistics that 72 percent of people on Instagram viewed Stories each day, that "[g]rowth is especially strong" among U.S. teens, and that, based on these viewership rates, "Stories Ads Revenue" had grown to be "20% of daily Instagram revenue."[499]

420. Instagram's "Live" feature, launched 2016, creates similar artificial urgency and FOMO. Through the "Live" feature, an Instagram user can broadcast livestream videos for their followers or the public to watch and react to in real time.[500] As the feature's name suggests, these videos are only accessible and can be interacted with during the time that the user is going "Live."

421. When an Instagram account "goes Live," Instagram sends out a notification on the mobile devices of users that follow that account that reads, "[@user] started a live video. Watch it before it ends!"[501] Instagram sends this notification even when a user does not have the Instagram app open to induce them to re-open and revisit the platform.

422. Emails to Instagram executives show that the "Live" feature was designed to

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[497] Sarah Lempa, *Why Are Instagram Stories So Addicting?*, Healthline (April 5, 2021), https://www.healthline.com/health/why-are-instagram-stories-so-addicting#The-story-behind-the-Stories.

[498] Madiha Jamal, *Ephemeral Content — The Future of Social Media Marketing,* Better Marketing (March 2, 2021), https://bettermarketing.pub/ephemeral-content-the-future-of-social-media-marketing-996d265916c2#:~:text=Ephemeral%20content%20relates%20to%20the,WhatsApp%20Stories%2C%20and%20LinkedIn%20Stories.

[499] META3047MDL-003-00023933.

[500] *Live*, Instagram Help Ctr., https://help.instagram.com/272122157758915/?helpref=hc_fnav (Last visited Nov. 14, 2023).

[501] *Notification Settings,* Instagram Help Ctr., https://help.instagram.com/105448789880240 (Last visited Nov. 14, 2023).

maximize young users' time spent on Instagram. In a December 2015 strategy email to Meta's executives, including former Instagram CEO Kevin Systrom and CTO Mike Krieger, Meta employees set goals "[to] drive substantial watch time via Live" by "[finding] partners to appeal to teens" and "driving time spent" for teens by "supporting initiatives" around "Live Events."

423. *Sixth*, Instagram and Facebook have recognized that by prioritizing engagement above all else, their algorithms are structured to recommend "keywords" or "hashtags" to its young users that navigate them to dangerous content.[502] One researcher put the matter directly in April 2021: "A recurring area of concern is that we are recommending keywords related to significant safety and wellbeing concerns, e.g., weight loss, diet pills, appetite suppressants. We have been flagging these terms as they appear and Product Policy and Product teams have been sweeping the list of keywords to remove them, but this is not sustainable and remains a significant safety, policy, and comms risk. Our current approach of catching all potentially risky terms in a 'block list' has not helped us avoid two news cycles, and the possibility of this happening a third time is a significant comms and policy risk."[503]

424. As another set of Meta researchers acknowledged, the majority of negative experiences on Instagram come not from direct interactions with others (i.e., through comments or direct messages) but rather through algorithmically-generated recommendations, via Explore, Feed, or hashtags, fueled by algorithm-collected user data.[504]

425. This effect is especially pronounced on Instagram's Explore Feed. As one internal research paper stated:

> Pooled across all topics, seeing more unconnected content [i.e., content from accounts that a user has not chosen to follow] is associated with worse appearance comparison. Women who spend proportionally more time on Explore (where we promote unconnected content) also have higher levels

[502] *See* META3047MDL-003-00068863 at META3047MDL-003-00068905 ("We are leading users to content that can intensify their feelings through suggested/related hashtags").

[503] META3047MDL-003-00184583

[504] META3047MDL-003-00087111 at 7112.

> of appearance comparison. . . . In a recent listening session, one creator described Explore as "a landmine for everything I want to avoid on IG" . . . because it triggers appearance comparison.[505]

426. The danger that these features pose to young users, and by extension their communities as a whole, was not a mystery to Meta.

427. In 2017, Meta investigated Facebook users who were addicted to the platform—that is, those who "cannot stop using [the] product to the point where it can cause them harm."[506] The research found that, "[i]n a given week, approximately 5.9 million people leave Facebook" because they "spent too much time" or because they were taking a temporary break and "planned to return."[507] "[T]his subset provided a good signal for people who could be addicted, who ultimately leave Facebook as a solution."[508] The analysis also found that this subset had a higher number of sessions per day, received more notifications, and responded quicker to notifications compared to all users.[509] In 2018, Meta examined the issue of what its researchers called "Facebook addiction" through a study titled "Problematic Facebook Use: When People Feel Like Facebook Negatively Affects Their Life."[510] The investigators defined "problematic use" as meaning: "Serious problems with sleep, work or relationships that they attribute to Facebook AND concerns or preoccupations about how they use Facebook (e.g., a fear of missing out (FOMO) or lack of control)."[511] Notably, the investigators did not target the heaviest Facebook users in their research.[512]

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[505] META3047MDL-003-00048726.

[506] Haugen_00016893 at Haugen_00016895. This group's investigation also included meeting with Nir Eyal, author of the book *Hooked: How to Build Habit-Forming Products*.

[507] Haugen_00016893 at Haugen_00016898.

[508] *Id*.

[509] Haugen_00016893 at Haugen_00016899-Haugen_00016802.

[510] Haugen_00021690 at Haugen_00021690.

[511] Haugen_00021690 at Haugen_00021692.

[512] Haugen_00021690 at Haugen_00021697.

428. The study found that up to 5% of teens ages 13-20 were problematic users.[513] "Problematic use is highest among teens and people in their 20s, consistent with previous findings that younger people generally have more problems with self-regulation.[514] Additionally, "problematic users" evidenced common tendencies, such as (a) accessing and spending more time on Facebook; (b) using Facebook late at night; (c) receiving more and responding more quickly to push notifications; (d) temporarily deactivating their account in the past; and (e) sending far more messages per minute with a higher ratio of messages sent to messages received.[515] Meta understands that "teens feel addicted to IG and feel a pressure to be present" and "like addicts, they feel that they are unable to stop themselves from being on IG."[516]

429. A study into Instagram user behaviors from that same year similarly found that "high time spent users do tend to be disproportionately younger users, and these users may warrant extra attention."[517] The study found that "[a]s time spent increases, we see a larger proportion of users that are high school, college or early work life-stages, with additional increases in high school when we zoom in on the top 1% of time spent users."[518]

430. Meta knows that "problematic use" of Facebook and Instagram leads to real problems. In one internal company document, Meta acknowledged that the pressure to be present and obtain validation on Instagram meant that teens lacked the capacity to "switch off and shut down," noting that teens "can get addicted to things that make them feel bad."[519] One of Meta's data scientists did not mince words when describing this phenomenon to their colleagues:

> I worry that driving sessions incentivize us to make our product more addictive, without providing much more value. How to keep someone

[513] Haugen_00021690 at Haugen_00021699.

[514] Haugen_00021690 at Haugen_00021697.

[515] Haugen_00021690 at Haugen_00021695-Haugen_00021697.

[516] META3047MDL-003-00157036 at META3047MDL-003-00157036.

[517] Haugen_00017177 at Haugen_00017181.

[518] *Id.*

[519] Haugen_00017069 at Haugen_00017128, Haugen_00017132.

> returning over and over to the same behavior each day? Intermittent rewards are most effective (think slot machines), reinforcing behaviors that become especially hard to distinguish—even when they provide little reward, or cease providing reward at all.[520]

Another Meta employee was clear-eyed that "little reward" was too charitable—and that addictive use was actively harming kids' mental health:

> In the focus groups teens told us that they don't like the amount of time they spend on the app but feel like they have to be present. They often feel 'addicted' and know that what they're seeing is bad for their mental health but feel unable to stop themselves. This makes them not feel like they get a break [sic] or to can't switch off social media. . . .
>
> [A]bout 30% (and an even larger proportions of those who are unsatisfied with their lives) said that the amount of time they spend on social media makes them feel worse. About half of teens in both markets want Instagram to take a break or to get off the app. . . . [In another survey], we found that time spent is among one of the most negative experiences for IG (25%+ say they spend too much time on social media and it's worst on Instagram and Facebook). At the same time, they didn't think there was anything they could do about it and had fairly negative things to say about the time spent tools we have (particularly that the tools are easy to ignore).[521]

431. In January 2021, another Meta employee wrote: "No one wakes up thinking they want to maximize the number of times they open Instagram that day. But that's exactly what our product teams are trying to do."[522]

432. Meta failed to invest in the development and design of adequate tools to limit the harm their platforms inflicted on users. As one employee candidly put it: "the tools we currently have aren't effective at limiting [users'] time on the app."[523] Nonetheless, Meta publicly presented certain of these tools as solutions, despite knowing of their ineffectiveness. For example, Meta offered its users a feature that purported to show how much time users had spent on Instagram, and Meta touted

[520] Haugen_00010114 at Haugen_00010127.

[521] Haugen_00017069 at Haugen_00017171.

[522] META3047MDL-003-00161686 at META3047MDL-003-00161686.

[523] META3047MDL-003-00157036 at META3047MDL-003-00157036.

this feature "when speaking to consumers, the press, and stakeholders about our efforts to combat social media addiction."[524] But internally, Meta acknowledged that the data reported by this tool was fundamentally "incorrect": "It's not just that Apple / Google have better data. Ours is wrong. Far worse. We're sharing bad metrics externally. We've been unable to right it despite several person-months of efforts. . . . So it's wrong (bad enough in itself), can't be fixed easily (we've tried), has been half-rolled-out for a while . . . the group that audits metrics we provide to the outside world, has called us out on it…The reason this is relevant is we vouch for these numbers. Any day they're out there is a legal liability."[525]

433. Meta's failure to prevent, and indeed business decision to pursue, compulsive use by children, and the harms resulting therefrom, are a function of its misplaced priorities. One "integrity researcher" at Facebook wrote an internal article in August 2020 with her parting thoughts as she left the company. She explained that Meta's leadership consistently ignored concerns about user safety:

> Integrity teams are facing increasing barriers to building safeguards. . . . [T]ime and time again I've seen promising interventions from integrity product teams, with strong research and data support be prematurely stifled or severely constrained by key decision makers—often based on fears of public and policy stakeholder responses. Similarly (though even more concerning), I've seen already built & functioning safeguards being rolled back for the same reasons . . . While mountains of evidence is (rightly) required to support a new intervention, none is required to kill (or severely limit) one. . . . [This] is intended as a call to reflection for those decision-makers imposing constraints.[526]

434. Meta's business decision to addict teenage users by rewiring their brains has not aged well for some of its former employees. Chamath Palihapitiya, the former Vice President of User Growth at Facebook, admitted that he feels "tremendous guilt" about his contributions to social media, saying "[t]he short-term, dopamine-driven feedback loops that we have created are

[524] *Id*.

[525] META3047MDL-003-00157133 at META3047MDL-003-00157133.

[526] Haugen_00021096 at Haugen_00021097-Haugen_0002110 (emphasis omitted).

destroying how society works."[527]

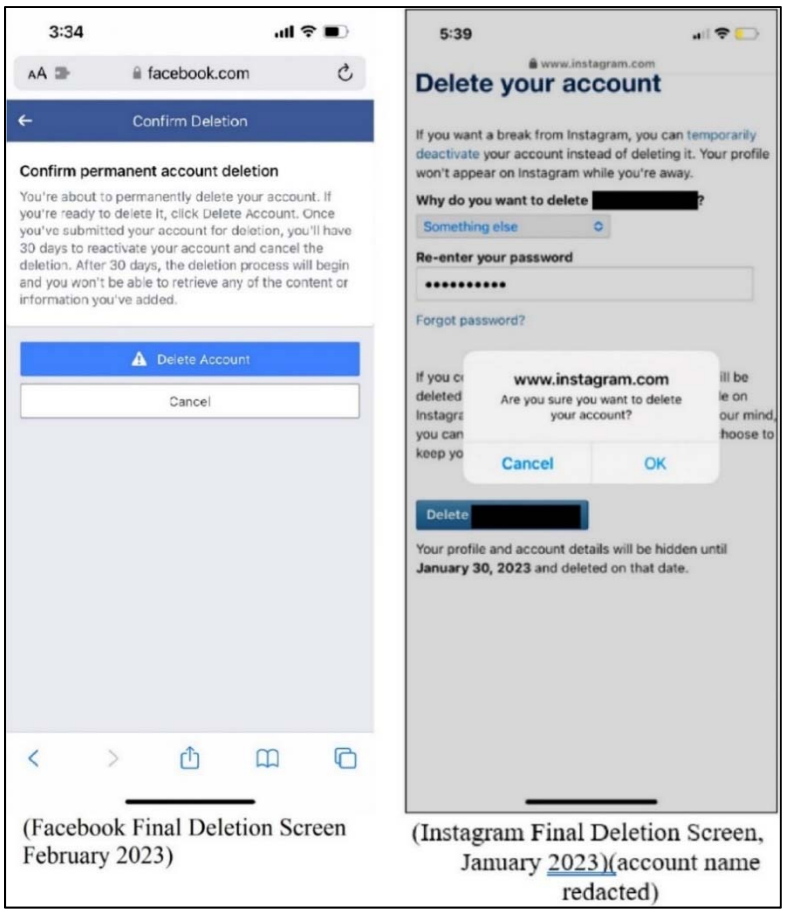
e. Meta makes it extremely difficult for children to discontinue their products.

435. Even if a child realizes the harm Meta's products are inflicting, and wants out of the cycle of compulsive use Meta creates, Meta has intentionally designed its platforms so that children users face significant impediments obstacles when trying to delete or deactivate their accounts. These obstacles stand in stark contrast to the ease with which users can create those accounts, effectively creating a one way door into Meta's manipulative design.

436. To delete or deactivate an Instagram or Facebook account, a user must locate and tap on approximately seven different buttons (through seven different pages and popups) from the main feed. Some users have undoubtedly given up in their attempt to quit because it was too difficult to navigate through the interface to completion.

437. Even if a user successfully navigates these seven pages, Meta still won't immediately delete their account. Instead, Meta preserves the account for 30 days. If at any time during those 30 days a user's addictive craving becomes overwhelming and they access the account again, the deletion process starts over. The user must go through all the above steps again, including the 30-day waiting period, if they again wish to delete their account.

[527] Amy B. Wang, *Former Facebook VP says social media is destroying society with 'dopamine-driven feedback loops'*, Wash. Post (Dec. 12, 2017), https://www.washingtonpost.com/news/the-switch/wp/2017/12/12/former-facebook-vp-says-social-media-is-destroying-society-with-dopamine-driven-feedback-loops/.



(Facebook Final Deletion Screen February 2023)

(Instagram Final Deletion Screen, January 2023)(account name redacted)

438. Moreover, the deletion process includes what Meta readily acknowledges are "aggressive" attempts to dissuade users from deleting their accounts.[528] Before a user can delete their Facebook account, Meta "lists some of your friends to remind you that they will no longer be able to contact you through the site and more importantly, [requires] the user to choose a reason for

[528] Haugen_00016893 at Haugen_0001689398.

why they're leaving."[529] Meta also requires users attempting to leave Instagram to select a reason why they are leaving.

439. As an additional barrier to deletion, Meta urges users of both platforms to deactivate, rather than delete, their accounts. For example, Instagram users who choose to delete their accounts are immediately shown a screen with their profile picture and asked: "Deactivate your account instead of deleting?" The option to deactivate is conspicuously highlighted. Similarly, Facebook displays a screen that automatically selects the option of deactivating rather than deleting a user account.

440. Meta's aggressive efforts to prevent users from discontinuing their use of Facebook and Instagram is particularly problematic because unsuccessful efforts to discontinue use are a hallmark of addiction, incorporated as the sixth criteria in the *Bergen Social Media Addiction Scale*, discussed above.

f. Meta's dangerous and harmful features cause negative body image and harmful impacts on youth mental health.

441. Meta has known since at least 2018 that Instagram has a corrosive effect on the mental health of pre-teen and teenage users.[530]

442. Meta has an internal research team comprised of employees with expertise in, *inter alia*, computer science, psychology, and quantitative and qualitative analysis. From 2019 to 2021, this team conducted a "teen mental health deep dive" which included focus groups, diary studies, and online surveys. One large-scale study paired a survey of tens of thousands of Instagram users

[529] *Id*.

[530] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00146240 at META3047MDL-003-00146256.

with data about the time each respondent spent on Instagram and the type of posts they viewed.[531]

443. The evidence collected by Meta's research team is damning. Among other findings, Defendants' researchers learned that:

a. 41% of teen users of Instagram in the U.S. and U.K. who reported feeling "unattractive" said the feeling began while using the platform;[532]

b. 32% of teenage girls said that when they felt bad about their bodies, Instagram made them feel worse;[533]

c. "We make body issues worse for 1 in 3 teen girls;"[534]

d. "Frequent social comparison is a key driver of subjective well-being and teens say IG makes this problem worse;"[535]

e. One in five teens say that Instagram makes them feel worse about themselves;[536]

f. Two-thirds of teen girls on Instagram experience negative social comparison;[537]

[531] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; Haugen_00017069; META3047MDL-003-00000029.

[532] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00000029 at META3047MDL-003-00000043.

[533] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; Haugen_00019219 at Haugen_00019226; META3047MDL-003-00001846 at META3047MDL-003-00001852.

[534] Haugen_00016699 at Haugen_00016707.

[535] Haugen_00019219 at Haugen_00019226.

[536] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; Haugen_00017069 at Haugen_00017091; META3047MDL-003-00000029 at META3047MDL-003-00000049.

[537] Haugen_00019219 at Haugen_00019226.

g. 17% of teen girl Instagram users say the platform makes "[e]ating [i]ssues" worse;[538]

h. About a quarter of teens who reported feeling "not good enough" said the feeling started on Instagram;[539]

i. Many teens said Instagram undermined their confidence in the strength of their friendships;[540]

j. Teenagers who struggle with mental health say that Instagram worsens those problems;[541]

k. "Teens blame Instagram for increases in the rates of anxiety and depression among teens" in recent years—a response that was unprompted and consistent across all groups;[542]

l. Among teens who reported suicidal thoughts, 13% of British users and 6% of American users traced the desire to kill themselves to Instagram;[543] and

[538] Haugen_00020135 at Haugen_00020162.

[539] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00000029 at META3047MDL-003-00000043.

[540] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00000029 at META3047MDL-003-00000043.

[541] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00000029 at META3047MDL-003-00000054.

[542] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667; META3047MDL-003-00000029 at META3047MDL-003-00000052.

[543] Georgia Wells & Jeff Horwitz, *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, Wall St. J. (Sept. 28, 2021), https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667 ; META3047MDL-003-00000029 at META3047MDL-003-00000043.

m. 13.5% of teen girl Instagram users say the platform makes thoughts of "suicide and self-injury" worse.[544]

444. In Meta's October 2019 "Teen Mental Health Deep Dive" research, which surveyed over 2,500 teenagers who use Instagram on at least a monthly basis, Meta researchers found that "[y]oung people are acutely aware that Instagram can be bad for their mental health, yet are compelled to spend time on the app . . . ."[545]

445. The Teen Mental Health Deep Dive also reported that "Teens blame Instagram for increases in the rates of anxiety and depression among teens."[546] Teenagers reported that Instagram gave them a "fear of missing out" in additional to a laundry list of additional "ways that Instagram harms their mental health," including "inappropriate advertisements targeted to vulnerable groups," and "over-sexualization of girls."[547] Teens further relayed that harm resulting from Instagram use "falls into three categories" and leads to devastating conditions, such as "anxiety," "insecurity," "isolation," loneliness," and "depression."[548]

446. Meta's researchers were clear in explaining that Instagram platform features were responsible for these problems. In one chart illustrating the "High" amount of "Body, Appearance Comparison" on Instagram, researchers cited as contributing factors "Product mechanics (addicting)" and "Explore, discover, stalk (down the rabbit hole)."[549] In another slide, researchers noted the particular problems with Instagram's Explore feature, as it contains "[t]ons of body image triggers" that are "[i]ntimidating" to users.[550]

447. Children are developmentally unprepared for the psychological ramifications of peer

[544] Haugen_00016699 at Haugen_00016707.

[545] https://s.wsj.net/public/resources/documents/teen-mental-health-deep-dive.pdf

[546] *Id.*

[547] *Id.*

[548] *Id.*

[549] Haugen_00015958 at Haugen_00015987.

[550] Haugen_00015958 at Haugen_00015989.

judgment and online comparisons.

448. Meta's internal researchers were not only clear about the fact that Instagram causes a high level of social comparison for teenagers; they were clear-eyed about the consequences. They observed that the addictive nature of the Instagram platform, combined with a pressure to match unrealistic beauty ideals, can send teens into a downward spiral that includes anger, withdrawal, insecurity, and body dysmorphia—"a series of emotions that in many ways mimic stages of grief."[551] They further warned that "[u]sers[']' experience of [this] downward spiral is exacerbated by our platform."[552] "Instagram can change how young women view and describe themselves," they noted, changing a girl's self-perception from "multi-dimensional" and "centered" to "not in control," "dark," boxed in," "low esteem," and "anxious."[553] The researchers' conclusions were stark: "Mental health outcomes related to this can be severe," and can include "eating disorders," "body dysmorphia," "body dissatisfaction," "depression," and "loneliness."[554]

449. Meta's research demonstrates that social comparison is particularly bad on Instagram, where Meta exacerbates harm to youth through design features that manufacture and emphasize influence and celebrity.[555] In 2021, its researchers found that exposure to "Top Accounts" (i.e., those with the top 0.1% of followers) was most associated with negative comparison and that Instagram's influence-driven algorithms ensure Top Accounts flood users' feeds almost half the time.[556]

450. Still, in an internal research document from 2022, Meta noted that "we primarily recommend top accounts to new users (78% of recs to new users are top accounts) and being recommended more top accounts is associated with seeing more High-Negative Appearance Comparison content a month later."

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[551] Haugen_00015958 at Haugen_00015985.

[552] Haugen_00015958 at Haugen_00015990.

[553] Haugen_00015958 at Haugen_00015983.

[554] Haugen_00015958 at Haugen_00015992.

[555] Haugen_00002527 at Haugen_00002555.

[556] META3047MDL-003-00159559 at META3047MDL-003-00159560.

451. Score-keeping features designed into Instagram amplify these problems and the resulting compulsive and problematic use. Teenage girls are particularly impacted when comparing "Like" counts, follower counts, views, and comments on their posts to those of models, celebrities, and so-called influencers. Meta's internal research reveals that teen girls are eight times more likely to engage in negative social comparison than their male counterparts.[557]

452. Instagram compounds the foregoing problems with yet another pernicious feature—image "filters" that allow users to engage in selective self-presentation by altering their appearance in photos and videos. These filters allow facial structure alteration, body slimming, skin lightening, skin tanning, blemish clearing, the artificial overlap and augmentation of makeup, and other beautification "improvements."[558] [559]

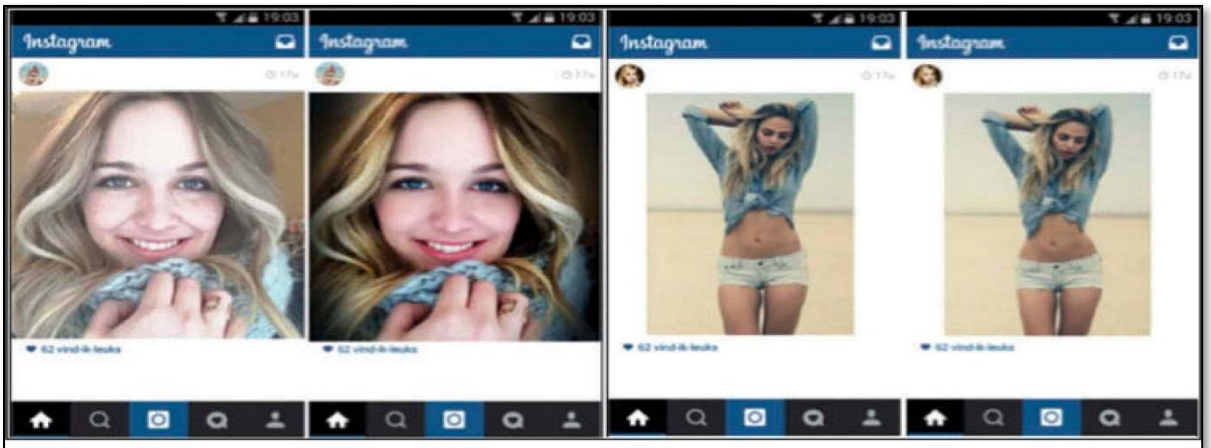

Figure 1. Examples of original versus manipulated Instagram photos emphasizing face, skin, and hair (left), or body (right).

453. Meta intentionally designed its platforms to not alert adolescent users when images have been altered through filters or edited. Meta has therefore designed its platforms so that users,

[557] Haugen_00017263 at Haugen_00017263.

[558] T. Mustafa, *An 'Instagram Vs Reality' filter is showing how toxic photo editing can be*, Metro (Apr. 30, 2021); https://metro.co.uk/2021/04/30/an-instagram-vs-reality-tool-is-showing-how-toxic-filters-can-be-14498265/.

[559] Mariska Kleemans, Serena Daalmans, Ilana Carbaat & Doeschka Anschütz (2018) *Picture Perfect: The Direct Effect of Manipulated Instagram Photos on Body Image in Adolescent Girls*, 21 Media Psychology 93, 93-110 (2018), https://www.tandfonline.com/doi/pdf/10.1080/15213269.2016.1257392.

including children in Local Government and School District Plaintiffs' schools and community, cannot know which images are real and which are fake, deepening obsessive, negative appearance comparison.

All these design features have harmed young users in multiple ways, both independently and in concert with Instagram's other harmful features, in the name of increasing user engagement.[560]

454. For example, the easy accessibility of filters, combined with features such as "Likes," encourages adolescents to artificially change their appearance.[561] As noted, adolescents naturally seek social validation. When they notice increased interaction and favorable responses to their filter-edited photos (more "Likes" and "comments"), many are led to believe they are only attractive when their images are edited.[562] These young people, including those in Local Government and School District Plaintiffs' schools and community, begin to prefer how they look using filters, not as they appear naturally.[563] In a 2016 study, 52% of girls said they use image filters every day, and 80% have used an app to change their appearance before age 13.[564] Meta's own findings showed teen girls spend hours editing images by altering their appearance before posting on Instagram,[565] and that "teen girls

[560] Anna Haines, *From "Instagram Face" to "Snapchat Dysmorphia": How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff.

[561] Tate Ryan-Mosley, *Beauty Filters Are Changing the Way Young Girls See Themselves*, MIT Tech. Rev. (Apr. 2, 2021), https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/amp/.

[562] *Id.*

[563] Poojah Shah, *How Social Media Filters Are Affecting Youth*, Parents (Apr. 28, 2022), https://www.parents.com/kids/health/childrens-mental-health/how-social-media-filters-are-affecting-youth/.

[564] Anna Haines, *From "Instagram Face" to "Snapchat Dysmorphia": How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff.

[565] Haugen_00019219 at Haugen_00019255.

in particular" are "some of the biggest users of these filters."[566] Pictures must be "Instagrammable" to be worthy of posting.

455. Instagram also causes youth to compare their real-life appearances to the edited appearances only achievable by filters and Meta's tools.[567] These false and unrealistic body image standards further lead teenagers like those in Plaintiffs' schools and communities to develop negative perceptions of their appearance. Seventy-seven percent of girls reported trying to change or hide at least one part of their body before posting a photo of themselves, and 50% believe they did not look good without editing.[568]

456. The specific changes filters make to an individual's appearance can cause negative obsession or self-hatred surrounding aspects of their appearance.[569] The filters alter specific facial features such as eyes, lips, jaw, face shape, and slimness, which often require medical intervention to alter in real life.[570] The pervasiveness of Meta-designed filters through the algorithm permeates Instagram and causes adolescent users to negatively compare their real appearances against a false physical reality.[571] In one recent study, even users who reported a higher initial self-esteem level

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[566] META3047MDL-003-00157020 at META3047MDL-003-00157020.

[567] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf (explaining that users forget that Instagram only shows the highlights of people's lives and is not depicting reality); Haugen_00019219 at Haugen_00019255.

[568] Anna Haines, *From "Instagram Face" to "Snapchat Dysmorphia": How Beauty Filters Are Changing the Way We See Ourselves*, Forbes (Apr. 27, 2021), https://www.forbes.com/sites/annahaines/2021/04/27/from-instagram-face-to-snapchat-dysmorphia-how-beauty-filters-are-changing-the-way-we-see-ourselves/?sh=3c32eb144eff.

[569] Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen Vogue (Jan. 25, 2022), https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp.

[570] *Id.*

[571] https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp Tonya Russell, *Social Media Filters Are Changing How Young People See Themselves*, Teen Vogue (Jan. 25, 2022), https://www.teenvogue.com/story/social-media-filters-how-young-people-see-themselves/amp.

felt they looked 44% worse before their image was edited using a filter.[572] "[W]hen the . . . filter increased the gap between how participants wanted to look and how they felt they actually looked, it reduced their self-compassion and tolerance for their own physical flaws."[573]

457. Heavily edited and unrealistic beauty, modeling, fitness, talent, and success-related posts are highly amplified by Meta's algorithms, especially on the Feeds of young users.

458. Social comparisons on social media are frequent and are especially likely to be upward, as social media provides a continuous stream of information about other people's accomplishments. Research suggests that social comparisons occur automatically; when individuals encounter information about another person, their self-perceptions will be affected. The sheer number of posts in a News Feed, each offering a thumbnail sketch of each person's carefully curated and predominantly ostentatious lives, yields numerous opportunities for social comparison. Although people do not typically post false information about themselves online, they engage in selective self-presentation. As a result, individuals browsing their News Feeds are more likely to see posts about friends' exciting social activities rather than dull days at the office, affording numerous opportunities for comparisons to people seemingly better-off. Individuals with vacillating levels of self-esteem and certitude, characteristics notoriously endemic to the adolescent cohort, are particularly oriented to making frequent and extreme upward social comparisons on social media. Social-media-induced social comparison often results in a discrepancy between the ideal self and the real self, thus evoking a sense of depression, deprivation, and distress, resulting in an overall aggravation of a person's mental state. Since the early 2000s, studies have shown that frequent upward social comparison results in lower self-esteem and reduced overall mental health. It is well-

[572] Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact People's Self-Image*, Harvard Business Review (December 22, 2021), https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image.

[573] https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image Ana Javornik, Ben Marder, Marta Pizzetti, & Luk Warlop, *Research: How AR Filters Impact People's Self-Image*, Harvard Business Review (December 22, 2021), https://hbr.org/2021/12/research-how-ar-filters-impact-peoples-self-image.

established that individuals who are more likely to engage in self-comparison are likewise more likely to suffer harm when using social media. Meta's design choices have amplified this dynamic to psychologically harmful levels, as discussed in further detail below.

459. The impact of the negative social and appearance comparison caused by Meta's design choices is profound. Instagram-induced social comparison creates a schism between the ideal self and the real self, leading to distress and depression. Filters, especially in combination with other platform features, cause body image issues, eating disorders, body dysmorphia, and related harms.[574]

460. Again, Meta has long been aware of the harms Instagram inflicts on youth by perpetuating social comparison. In one study from 2019, teens ages 13-17 explained that Instagram harms their mental health by creating pressure to conform to social stereotypes, the need for validation through views, "Likes" and followers, and the over-sexualization of girls.[575] Meta's analysis categorized the documented harms into three categories: impacts from comparison to others, the pressure of looks/behaviors, and from others' behaviors. These impacts were associated with isolation, unhealthy eating habits, depression, anxiety, insecurity, and loneliness.[576]

461. In its "Social Comparison Exploratory Research" conducted in 2020, Meta acknowledged that body image comparisons are formed in part by its features—filters that flood its app with seemingly unattainable looks like flawless skin, made even worse by the use of "hashtags

[574] *See* Sian McLean, Susan Paxton, Eleanor Wertheim, & Jennifer Masters, *Photoshopping the Selfie: Self Photo Editing and Photo Investment Are Associated with Body Dissatisfaction in Adolescent Girls*, 48 Int'l J. of Eating Disorders 1132, 1133 (Aug. 27, 2015), https://pubmed.ncbi.nlm.nih.gov/26311205/ (presenting a 2015 study involving 101 adolescent girls, which found that more time spent editing and sharing selfies on social media raised their risk of experiencing body dissatisfaction and disordered eating habits.); Scott Griffiths, Stuart Murray, Isabel Krug, & Sian McLean, *The Contribution of Social Media to Body Dissatisfaction, Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men*, 21 Cyberpsychology Behavior, and Soc. Networking 149, 149 (Mar. 1, 2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5865626/.

[575] Haugen_00017069 at Haugen_00017122.

[576] Haugen_00017069 at Haugen_00017126.

like no-filters but actually using filters."[577] Meta's researchers found that nearly half of teen girls on Instagram feel like they often or always compare their appearance to others using the platform, and more than one-third feel extreme pressure to look perfect on Instagram.[578] In a related survey, Meta found that around the age of 30, the role of Instagram in social comparison begins to diminish.[579]

462. According to research conducted by Meta in 2019, over 60% of teens believe Instagram should help them address the effects of social comparison by recommending positive accounts, reprioritizing their feeds to promote healthy accounts, and help them follow a balance of accounts.[580] One in three teens wished Instagram gave them better user controls.[581] Yet a survey conducted two years later revealed that Meta had done little to address its users' concerns. Topics that elicited social comparison still encompassed over one-third of teen girls' feeds. And for every post from a friend that appeared in a teen girl's feed, Instagram's algorithm drove five times as many posts from popular accounts.[582]

463. One slide from Meta's study of social comparison offers a particularly succinct summation of how the various features built into Instagram "exacerbate each other to create a perfect

[577] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf *Supra*; Haugen_00015958 at Haugen_00015971-Haugen_00015977.

[578] Haugen_00007080 at Haugen_00007082.

[579] Haugen_00007080 at Haugen_00007095.

[580] Haugen_00017069 at Haugen_00017145.

[581] Haugen_00020135 at Haugen_00020171.

[582] Haugen_00002527 at Haugen_00002527.

storm."[583] "Posting 'For the Gram'" creates a "Pressure to Look Perfect."[584] The ability of influencers to "Monetiz[e] face + body" creates a "Highlight Reel Norm."[585] And the "Vortex of Feed + Profile and Explore" promotes a "Hate to love" dynamic for users, which "Feed[s] the Spiral" of compulsive use.[586] Taken together, these three aspects of users' experiences—all driven

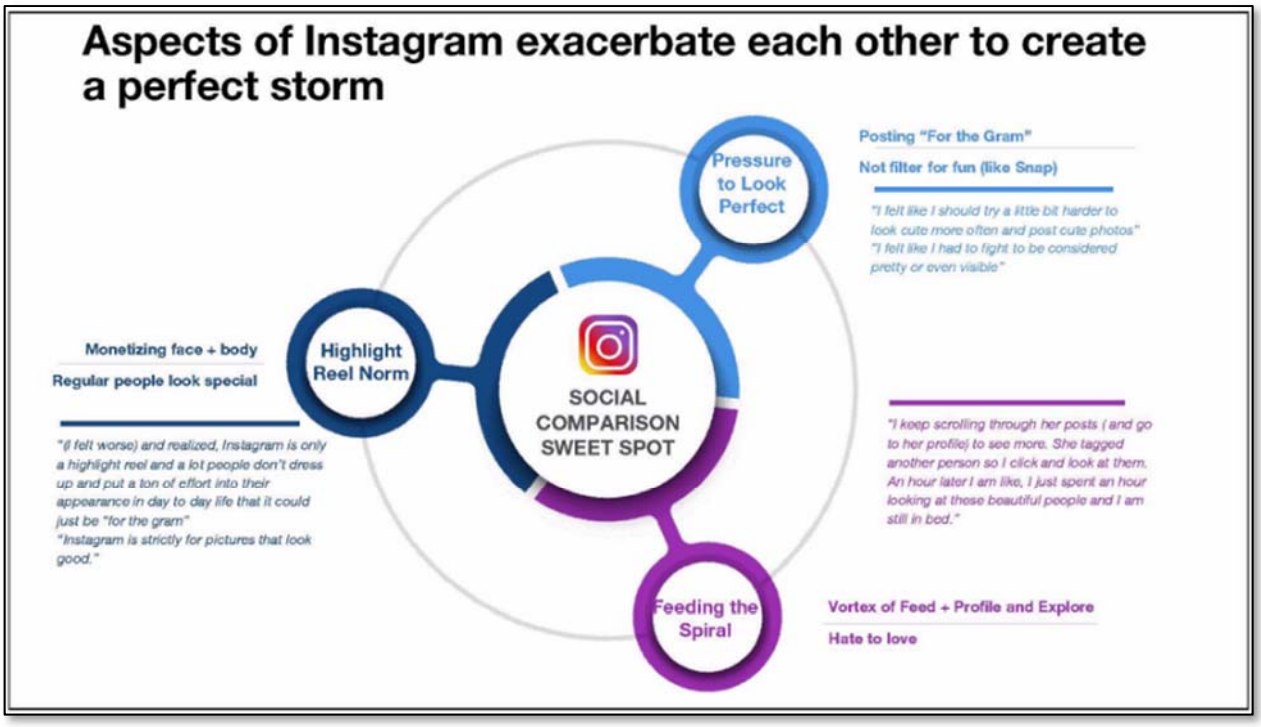
[583] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf; Haugen_00015958 at Haugen_00015991.

[584] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf; Haugen_00015958 at Haugen_00015991.

[585] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf; Haugen_00015958 at Haugen_00015991.

[586] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf; Haugen_00015958 at Haugen_00015991.

by design features of Instagram—create a "Social Comparison Sweet Spot."[587]



464. Meta understands that the social comparison it knowingly promotes through appearance filters creates compulsive behavior among child users, especially when paired with other features such as "Likes" and algorithmic recommendations. Specifically, Meta knows that social comparison creates a negative feedback loop.[588] Its internal research reveals that, as teens compare themselves to others, their self-doubt grows, which in turn heightens the degree of attention they give these feelings. As these effects compound, teens experience depression and anxiety, making them more vulnerable and susceptible to addiction to Meta's platforms.[589] Meta observed that long-term, constant self-critique and scrutiny permanently shape how teens view themselves in all

[587] *See Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Wall. St. J. (Sept. 29, 2021), https://s.wsj.net/public/resources/documents/teen-girls-body-image-and-social-comparison-on-instagram.pdf; Haugen_00015958 at Haugen_00015991.

[588] Haugen_00017069 at Haugen_00017127.

[589] *Id.*

relationships, on and offline.[590] Moreover, they found that the incessant social pressure Instagram inflicted on teens led to obsessive control and attention-seeking behavior to obtain social validation.[591] In other words, Instagram's design features resulted in an insidious cycle of harm where teens believed they could only find reprieve by increased Instagram use.

465. Meta has the technological capabilities to mitigate social comparison harms significantly, but actively chooses to ignore leading research (including its own) and its product engineers' recommendations. One internal presentation recommended several "targeted interventions" for changes to Instagram that could mitigate these harms, such as a recommendation that users take a break during a long use session.[592] In another, computational social researchers and engineers at Meta proposed numerous, feasible product design changes, including demotions on Explore and Reels using topic and image and video features from an FBLearner model, separating top-account feed from close-friend feed, and not recommending celebrities to follow that post primarily fashion/beauty material as users "can find these accounts on their own, but [Meta] shouldn't amplify their influence through recommendations."[593]

466. One such example is Project Daisy, an internal experiment conducted by Meta in 2020 where it found that it could decrease negative social comparison by hiding "like" counts on Instagram posts.

467. Meta tested two pilot versions of Project Daisy – "Pure Daisy" and "Popular Daisy."

468. Under "Pure Daisy," Like counts on all posts except one's own were hidden.

469. Under "Popular Daisy," Like counts on posts from certain popular accounts were visible, but the Like counts on the average users' posts were hidden.

470. Both Pure Daisy and Popular Daisy reduced the negative impact of social comparison.

[590] Haugen_00017069 at Haugen_00017130.

[591] Haugen_00017069 at Haugen_00017127.

[592] Haugen_00019219 at Haugen_00019272.

[593] Haugen_00002527 at Haugen_00002565.

471. According to Meta's internal documents, young users reported that hiding Like counts made them care less about the number of Likes that their posts had received.

472. A March 2020 internal document acknowledged this impact, recognizing that hiding Like counts may be an effective intervention to reduce social comparison for users in the United States.

473. In the Project Daisy analysis, Meta also tracked the effects of different variants of Daisy on engagement and their impact on Meta's advertising revenue.

474. And after assessing the impact of Project Daisy on user engagement and revenue—including an estimated 1% negative effect on Meta's advertising revenue—Meta's leadership decided not to implement Project Daisy and, as of December 2023, like counts on all users' posts remain visible by default on Instagram and Facebook. This is despite Meta's senior leadership acknowledging that social comparison is a critical issue with serious consequences for its users, particularly for Instagram.

475. Although Meta is aware that negative social comparison is a problem for teens, and that seeing high Like counts on others' posts makes users feel worse, Meta continues to quantify and display social statistics such as Likes on its Platforms by default.

476. This choice was made to reject project Daisy, notwithstanding that high-ranking Meta employees "HUGELY pushed for Daisy" to be implemented. For example, in an internal email from April 2021, Instagram's Head of Public Policy Karina Newton noted, "we have continued to get the advice [from experts] that we should have Daisy on by default for teens."

477. This decision was contrary to Meta's public promises. For example, on November 8, 2019, Mosseri when discussing the social impact of "likes" generally, publicly stated that "[w]e will make decisions that hurt the business if they're good for people's well-being and health … ."

478. In reality, when Meta discovered that visible Like counts were harmful for user well-being but associated with higher advertising revenues, Meta decided to keep the visible Like counts at the expense of user well-being.

479. Other internal documents confirm the reasons for rejecting Project Daisy were due to concerns over the negative impact specific to teen engagement, explain that any efforts to improve teen safety and well-being should be accompanied by "retaining our focus on teen engagement."

480. Through numerous subsequent public statements, Meta represented that Project Daisy was not implemented because Meta lacked sufficient evidence that the Platform changes tested in Project Daisy would be beneficial to the mental health of its users. But these statements were contrary to what Meta knew—that it had tested, validated, and documented that removing visible Like counts as a default would be generally beneficial for its users.

481. Meta's own researchers expressed concern that public "statements like 'Daisy didn't improve well-being' are misleading," including because Project Daisy did, as their own work had shown, cause statistically significant improvements according to certain reliable measures of user well-being.

482. Meta knew that its decision to reject implementation of project Daisy would be received negatively among the public and by lawmakers, and it therefore took significant measures to "manage negative reactions about us 'walking back' our progress to address well-being . . . ."

483. Galling, these measures even included a delay in the announcement of Meta's decision on Daisy in order "to separate it from Mental Health Awareness Month and avoid conflating Daisy with direct ties to mental health … ."

484. Despite its vast knowledge of the harms that Instagram's features were causing to adolescents, in Meta's 2021 Milestone Tracker, the action item of reducing the negative effects from social comparison through controls had yet to even be started.[594] In other words, despite awareness that the deliberate design of Instagram was drastically damaging teen mental and physical health, Meta ignored the problem, failing to implement its own researchers' recommendations.

[594] Haugen_00025741 at Haugen_00025763.

4. Meta has concealed from Plaintiffs, the public, and Congress the harmful effects that Instagram's and Facebook's design features have on children.

485. Meta has engaged in a years-long pattern of concealing critical information about the safety of Instagram and Facebook from the public, including children in Local Government and School District Plaintiffs' schools and communities. In one internal document from February 2018, employees at Meta communicated about how best to "refin[e] counter-messaging around the addiction narrative that's been propagating." This effort to conduct "message testing around addiction PR responses" included the ideas that "[t]he whole dopamine thing is completely made up and based on no research," "[t]here's no agreement on what is meant by addiction," and (contradictorily) "[w]e're taking it seriously, doing research, [and] launching new tools to help people."[595]

486. Meta knew that none of this was true. For instance, in the summer of 2019, Zuckerberg met with a psychologist and leading expert on the mental health effects of social media on young people. This leading expert countered Zuckerberg's contention that harms from social media are trivial and explained how, to the contrary, Instagram and other platforms have been a major contributor to the spike in young girls' mental health problems since 2012. The psychologist addressed his research "on the dramatic rise in rates of teenage anxiety, depression, and self-harm" and explained how the research on social media's role "points heavily to a connection, not just from correlational studies but from true experiments, which strongly indicate[s] causation, not just correlation."[596]

487. The psychologist's research was matched by Meta's internal findings. in October 2019, Meta conducted a "Teen Mental Healthy Deep Dive" to "get a nuanced understanding of teens' perception of how Instagram effects their mental health." The results of this research showed that Instagram's teen users "have an addicts' narrative about their use" "recognize the amount of

[595] META3047MDL-003-00082165 at META3047MDL-003-00082165- META3047MDL-003-00082165.

[596] META3047MDL-003-00089174 at META3047MDL-003-00089176.

time they spend online isn't good for them," "but at the same time know they lack the willpower to control the time spent themselves."

488. Similarly, in June 2020, Meta's Senior User Experience ("UX") Researcher noted in an internal report entitled "What Makes Teens Tick?" that "our own product foundation research has shown teens are unhappy with the amount of time they spend on our app" and that "[d]ue to the immature [teen] brain, they have a much harder time stopping even though they want to."[597] The report further noted that because "[t]een brains are much more sensitive to dopamine," the risk of "addiction" is higher and that is what "keeps them scrolling and scrolling."[598]

489. Meta had also researched and analyzed addictive or "problematic use" reported by young users on its platforms. According to Meta's 2019 "Hard Life Moments —Mental Health Deep Dive" research, which studied "the reach, intensity, [and] impact of Instagram" "[a]cross 13 mental health and well-being issues," "[over 30% of users across age cohorts" told Meta that "Instagram made problematic use [Meta's euphemism for compulsive use] worse."[599] In a separate study, researchers noted that "sleep problems" can "be part of [Facebook] addiction" and confirmed "it is true that negative impacts on sleep is one possible outcome of problematic social media use."[600] And in February 2019, Meta's VP of Research, David Ginsberg circulated a summary of external and internal research on Instagram and "Teen Well-Being" to executives, including then-COO Sheryl Sandberg and Head of Instagram Adam Mosseri, that acknowledged "when social media use displaces sleep in adolescents (via nighttime social 'media use), it is negatively correlated to indicators of mental health."[601]

490. Moreover, Meta knows that its addictive features, especially when paired with a sophisticated recommendation system powered by content-agnostic user behavior data, harm young

[597] META3047MDL-003-00191215.

[598] META3047MDL-003-00191215.

[599] META3047MDL-003-001 70055; META3047MDL-003-00166559.

[600] META3047MDL-003-00117636.

[601] META3047MDL-003-00050423.

users because they encourage passive consumption.

491. Despite knowing better, Meta's high-ranking executives then began pushing intentionally misleading talking points to the public. Instead of informing the public about Meta's internal research demonstrating Instagram's and Facebook's negative impacts on the health and well-being of the nation's youth, Meta repeatedly omitted key facts and misrepresented its platforms in service of an overall message touting the safety of its platforms for children.

492. Meta maintained a set of internal data showing shockingly high rates of harm experienced by users of its Social Media Platforms. But it published the favorable Community Standard Enforcement Reports (CSER) data, while concealing the alarming internal Bad Experiences & Encounters Framework (BEEF) and Tracking Reach of Integrity Problems Survey (TRIPS) data showing frequent user harms. Accordingly, Meta represented to the public that its Social Media Platforms were far safer for young users than they actually were.

493. Further, in response to the BEEF survey, Meta conducted an internal experiment that alerted users if their comment or post had upset other users who viewed that content. The experiment demonstrated that many users would delete the post or comment following that notification. However, Meta did not adopt that experiment or other proposed remediations. Rather, Meta personnel, including managers and even Meta's leadership refused to implement changes as a result of the survey.[602]

494. Again and again, instead of "taking [this] seriously" and "launching new tools" to protect kids,[603] Meta did the opposite. By late 2019, Meta's "mental health team stopped doing things," "it was defunded" and "completely stopped."[604] But rather than own up to the consequences of its own actions, Meta allowed safety tools it knew were broken to be held out as fixes.[605] All the

[602] https://www.wsj.com/tech/instagram-facebook-teens-harassment-safety-5d991be.

[603] META3047MDL-003-00082165 at META3047MDL-003-00082165- META3047MDL-003-00082165.

[604] META3047MDL-003-00011697 at META3047MDL-003-00011698.

[605] *See* Haugen_00012303 at Haugen_00012314.

while, Meta ignored cries from their well-being researchers to aggressively confront its youth safety problem: "[T]here's so much more we could have done here … [but] there was the explicit decision last half not to fund this anymore."[606]

495. Because of Meta's concealment, Plaintiffs, children, parents, the public, and Congress were left in the dark and reasonably relied on Meta's reassurances. Had Meta disclosed the truth regarding its platforms, Plaintiffs may not have suffered the harms they did, and the harms it continues to suffer resulting from children's use of its platforms. Instead, Meta pursued a knowing pattern of concealment to Plaintiffs' detriment.

496. In the year leading up to Meta's acquisition of Instagram, Meta publicly acknowledged its duty to children and worked to create false expectations about its platforms' safety. For example:

a. Zuckerberg (3/25/2011): "So, we're really focused on, on safety, especially children's safety. So we're having folks under the age of 18, um we, we just take a lot of extra precautions for it, to make sure that it's just a safe environment for them um, to use this service that you know, the default for, for people sharing things isn't that they're sharing with everyone but that they're sharing with a smaller community … But I think, I think that's a lot of it. We really try to build a safe environment. Um, and um, that's gonna be the key long term."[607]

b. Zuckerberg (3/25/2011): "Right, and they, they feel like Facebook is this really secure place and that it's a hundred percent safe, and um, we're always thinking about little and big things like that that we can do to keep it safe for, for the people who use our service."[608]

c. Zuckerberg (5/25/2011): "I mean, we do not allow people under the age of 13 to sign up and I think if we ever were, we would need to try to figure out a lot of ways to make sure that they were safe, right, because that's just extremely important and that's just not the top of the list in terms of things for us to figure out right now."[609]

497. Following Meta's acquisition of Instagram, high-ranking executives continued to

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[606] META3047MDL-003-00103260 at META3047MDL-003-00103260.

[607] *Mark Zuckerberg at BYU with Senator Orrin Hatch*, YouTube, March 25, 2011, http://www.youtube.com/watch?v=zRsbWOmmvNo.

[608] *Id.*

[609] Maurice Levy, *Conversation with Mark Zuckerberg at E-G8 Forum,* YouTube, May 25, 2011, http://www.youtube.com/watch?v=Gy0bq9FAJRs.

make public pronouncements about the safety of Meta's platforms, including, but not limited to, the following statements:

a. Zuckerberg (12/1/2015): "We will do our part to make this [better world] happen, not only because we love you, but also because we have a moral responsibility to all children in the next generation."[610]

b. Zuckerberg (4/11/2018): "Congressman, we have a number of measures in place to protect minors specifically. We make it so that adults can't contact minors who they - they aren't already friends with. We make it so that certain content that may be inappropriate for minors, we don't show."[611]

c. Zuckerberg (4/10/2018): when asked by members of the U.S. Senate Committee on Commerce, Science, and Transportation whether his companies "[h]ire consulting firms to help them figure out how to get more dopamine feedback loops so that people don't want to leave the platform": "No . . . that's not how we talk about this or how we set up our product teams. We want our products to be valuable to people, and if they're valuable, then people choose to use them."[612]

d. Zuckerberg (7/12/2018): "There are really two core principles at play here. There's giving people a voice, so that people can express their opinions. Then, there's keeping the community safe, which I think is really important."[613]

e. Zuckerberg (7/25/2018): "[W]e will continue to invest heavily in security and privacy because we have a responsibility to keep people safe. But as I've said on past calls, we're investing so much in security that it will significantly impact our profitability."[614]

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[610] Mark Zuckerberg, Facebook (Dec. 1, 2015), https://www.facebook.com/zuck/posts/10153375081581634.

[611] *Transcript of Zuckerberg's appearance before House committee*, Wash. Post (April 11, 2018) https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on.

[612] *Facebook, Social Media Privacy, and the Use and Abuse of Data: Hearing Before the S. Comm. on Commerce, Sci., and Transp. and H. Comm's on the Judiciary and Commerce, Sci., and Transp., 115th Cong.* (Apr. 10, 2018), https://www.commerce.senate.gov/2018/4/facebook-social-media-privacy-and-the-use-and-abuse-of-data.

[613] Kara Swisher, *Zuckerberg: The Record Interview*, Vox (July 12, 2018) https://www.vox.com/2018/7/18/17575156/mark-zuckerberg-interview-facebook-recode-kara-swisher.

[614] *Facebook, Inc., Second Quarter 2018 Results Conference Call* (July 25, 2018) https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q2/Q218-earnings-call-transcript.pdf.

f. Zuckerberg (8/21/2018): "One of the most important responsibilities we have as a company is to keep people safe and stop anyone from abusing our service."[615]

g. Zuckerberg (9/7/2018): "What I've learned so far is that when you build services that are used by billions of people across countries and cultures, you will see all of the good humanity is capable of, and people will try to abuse those services in every way possible. It is our responsibility to amplify the good and mitigate the bad."[616]

h. Zuckerberg (11/15/2018): "[W]e have a responsibility to keep people safe on our services."[617]

i. Zuckerberg (1/1/2019): "We ended 2018 with more than 30,000 people working on safety and security -- up from 10,000 people a couple of years ago."[618]

j. Zuckerberg (1/30/2019): "[O]n all the content and safety and security issues, there's more to do here but I'm proud of the work that we have done to get in front of a lot more of these issues."[619]

k. Zuckerberg (3/30/2019): "[W]e have a responsibility to keep people safe on our services."[620]

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[615] Mark Zuckerberg, Facebook (Aug. 21, 2018), https://www.facebook.com/zuck/posts/10105188590724391?__tn__=K-R.

[616] Mark Zuckerberg, Facebook (Sept. 7, 2018), https://www.facebook.com/zuck/posts/10105224999156601?__xts__%5B0%5D=68.ARB273c8TJkMqNAclfl-i0UB6fVWHZ_hO4k0KASCy8XfVdyC9XEVqoPLsPUPDh94zSHboQiB1t3mSlP9yEUyjvaEF50UxoUqVca4ZcM4nnkQ3MWz3dBGRQYm7lJMj_Cbl25p7a9-HX-aXjkjNdS21XzaAThg9PfkrzJ_dTLszwUZ3H6b3Q4biIc&__tn__.

[617] Mark Zuckerberg, Facebook (Nov. 15, 2018), https://www.facebook.com/notes/mark-zuckerberg/a-blueprint-for-content-governance-and-enforcement/10156443129621634/.

[618] Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 1, 2019), https://investor.fb.com/investor-events/event-details/2019/Facebook-Q4-2018-Earnings/default.aspx.

[619] Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 30, 2019), https://investor.fb.com/financials/default.aspx.

[620] Mark Zuckerberg, *Mark Zuckerberg: The Internet needs new rules. Let's start in these four areas,* Wash. Post (March 30, 2019), https://www.washingtonpost.com/opinions/mark-zuckerberg-the-internet-needs-new-rules-lets-start-in-these-four-areas/2019/03/29/9e6f0504-521a-11e9-a3f7-78b7525a8d5f_story.html?noredirect=on.

l. Zuckerberg (4/24/2019): "You should expect we'll do everything we can to keep you safe on our services, within the bounds of an encrypted service."[621]

m. Sheryl Sandberg (1/29/2020): "[We] have to keep people safe and give them control over their experience on our apps. And we are."[622]

n. Sheryl Sandberg (10/29/2020): "While we continue to invest in helping businesses, we are equally focused on keeping our platform safe."[623]

o. Mark Zuckerberg (11/202): when asked whether he believed Meta's platforms can be addictive, "we certainly do not design the product in that way."[624]

p. Meta (12/23/2020), when asked by the Senate Committee on the Judiciary whether it could "determine whether increased use of their platform among teenage girls has any correlation with increased signs of depression [or anxiety]": "No." And, when asked what research Meta had conducted internally on the mental health impacts of social media use: "[t]he effects of social media are still being studied."[625]

q. Zuckerberg (3/25/21), when asked by members of the U.S. House of Representatives Committee on Energy and Commerce, "Do you believe that your platform harms children?": "I don't believe so. This is something that we study and we care a lot about; designing products that improve peoples' well-being is very important to us. And what our products do is help people stay connected to people

[621] Mark Zuckerberg, Facebook (April 24, 2019), https://www.facebook.com/zuck/posts/10107243286682221.

[622] Meta Investor Relations, *Earnings Call Transcript*, Meta (Jan. 29, 2020), https://investor.fb.com/investor-events/default.aspx.

[623] Meta Investor Relations, *Earnings Call Transcript*, Meta (Oct. 29, 2020), https://investor.fb.com/investor-events/default.aspx.

[624] *Breaking the News: Censorship, Suppression, and the 2020 Election: Hearing Before the S. Comm. on the Jud.*, 116 Cong. (2020) (Statement of Mark Zuckerberg); *See also CEO Mark Zuckerberg on Whether Products are Addictive: "We Certainly Do Not Design the Product in that Way*," The Recount, (Nov. 17, 2020), https://therecount.com/watch/facebook-ceo-mark-zuckerberg-on/2645864077.

[625] *Facebook, Inc. Responses to Questions for the Record from the Comm. on the Judiciary November 17, 2020 Hearing: Breaking the News: Censorship, Suppression, and the 2020 Election*, at 124-125 (December 23, 2020), https://www.judiciary.senate.gov/imo/media/doc/Zuckerberg%20Responses%20to%20QFRs.pdf.

they care about, which I think is one of the most fundamental and important human things that we do, whether that's for teens or for people who are older than that."[626]

r. David Wehner, Chief Financial Officer of Meta (4/28/2021): "I mean, the only thing I'd add . . . is that, I think more than anyone else in the industry, we invest on the safety and security side to sort of keep bad content off the site before it gets ranked and put into what people see. So we've got 35,000 -- over 35,000 people on the safety and security side. We've got the most robust set of content policies out there. We do a quarterly call, public call around our content review process and procedures. So I think that on the front, before it even gets into the algorithm, I think we really do more than anyone else in the industry on the safety and security front to prevent things like misinformation and a bad content going into the system in the first place."[627]

s. Adam Mosseri (5/2021): in statement to reporters, dismissing concerns around Instagram's negative impact on teens as "quite small."[628]

t. Antigone Davis Meta's Global Head of Safety (9/21) "I disagree with calling our product addictive … . [T]hat's not how we build products."[629]

u. Adam Mosseri (12/21): "I don't believe that research suggests that our products are addictive."[630]

498. On each of the above occasions, and many others, Meta falsely touted the safety of its platforms; it could have but failed to disclose information it knew concerning the significant risks associated with its platforms, even though it knew that the public lacked access to this information.

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[626] *Disinformation Nation: Social Media's Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* (March 25, 2021), https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf.

[627] Meta Investor Relations, *Earnings Call Transcript*, Meta (April 28, 2021), https://investor.fb.com/investor-events/event-details/2021/Facebook-Q1-2021-Earnings-/default.aspx.

[628] Taylor Hatmaker, *Facebook Knows Instagram Harms Teens. Now its Plan to Open the App to Kids Looks Worse than Ever*, TechCrunch (Sept. 16, 2021), https://techcrunch.com/2021/09/16/facebook-instagram-for-kids-mosseri-wsj-teen-girls/.

[629] *See* https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms.

[630] Taylor Hatmaker, *Instagram's Adam Mosseri Defends the App's Teen Safety Track Record to Congress*, TechCrunch (Dec. 8, 2021), https://techcrunch.com/2021/12/08/instagrams-adam-mosseri-senate-hearing-teen-safety/.

As Meta's Chief Technology Officer remarked in a 2019 memo, the media had "limited information to work with" about the company and that this limitation was by Meta's "own design."[631]

499. Meta's pattern of intentional concealment came to a head in August 2021, just weeks before Frances Haugen dropped her bombshell revelations on the public. On August 4, 2021, Senators Marsha Blackburn and Richard Blumenthal wrote to Mark Zuckerberg. The Senators' letter observed that "[a]n expanding volume of scientific research shows that social media platforms can have a profoundly harmful impact on young audiences" and noted "grave concerns about [Meta's] apparent effort to ensnare children into social media platforms at earlier and earlier ages."[632] The letter concluded by asking Zuckerberg six "pretty straightforward questions about how the company works and safeguards children and teens on Instagram."[633]

500. In its August 17, 2021, written response to Senators Blackburn and Blumenthal, Meta omitted any reference to the internal research it had conducted demonstrating the negative impact Instagram can have on kids' mental health.[634]

501. The Senators' letter asked whether Meta had ever developed products or features "that it had reason to believe could have a negative effect on children's and teens' mental health or well-

[631] Haugen_00007350 at Haugen_00007350 (Dec. 30, 2019 memo by Andrew Bosworth regarding "Thoughts for 2020").

[632] Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf.

[633] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower; *See also*, Letter from Richard Blumenthal, U.S. Senator, to Mark Zuckerberg, Chief Executive Officer of Facebook (Aug. 4, 2021), https://www.blumenthal.senate.gov/imo/media/doc/8.4.21%20-%20Facebook%20-%20Mental%20Health%20and%20Kids%20Letter.pdf.

[634] Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator (Aug. 17, 2021), https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf.

being."[635] Meta responded by claiming it had "built many special protections for teens."[636] But it failed to mention, for example, that it employed "growth hackers" who internally advised: "we can be very aggressive with our notifications to create a habit."[637]

502. The Senators' letter also asked if Meta's research had "ever found that its platforms and products can have a negative effect on children's and teens' mental health or well-being."[638] Meta responded that the matter was "still being studied,"[639] that it was challenging to conduct such research,[640] and that the company was "not aware of a consensus among studies or experts about how much screen time is 'too much.'"[641] While Meta reiterated its vague and already public position that "passive" use of social media can correlate with "negative outcomes,"[642] it failed to disclose any more specific findings.[643]

503. Meta failed to disclose, in response to the Senators' direct question, its detailed research regarding addiction to its platforms, which the company terms problematic usage;[644] its

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[635] *Id.*

[636] *Id.*

[637] Haugen_00016893 at Haugen_00016914 (Aug. 3, 2017 memo entitled "Have we made people addicted to Facebook?").

[638] Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 2 (Aug. 17, 2021), https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf.

[639] *Id.*

[640] *Id.*

[641] *Id.*

[642] *Id.*; *see also* Meta Investor Relations, Earnings Call Transcript, Meta (April 25, 2018), https://s21.q4cdn.com/399680738/files/doc_financials/2018/Q1/Q1-18-Earnings-call-transcript.pdf.

[643] Letter from Facebook, Inc. to Richard Blumenthal, U.S. Senator, and Marsha Blackburn, U.S. Senator 6 (Aug. 17, 2021), https://www.blumenthal.senate.gov/imo/media/doc/817.21facebookresponseletter.pdf.

[644] Haugen_00016373 at Haugen_00016379 (Mar. 9, 2020 internal presentation and discussion about problematic use with a slide stating that problematic use "is sometimes referred to as 'social media addiction' externally"); Haugen_00016373 at Haugen_00016373 (Mar. 9, 2020 internal presentation and discussion regarding problematic use in which a Meta employee shared a post stating: "In Q4 2019, our Well-being Product Team conducted global qualitative research to better

assessment that "[t]he best external research indicates that Facebook's impact on people's well-being is negative";[645] its identification of "Problematic Use," loneliness, and social comparison as the three drivers of this negative impact;[646] its finding that up to 25% of people on Facebook experience so-called problematic use;[647] its data showing that "high time spent users do tend to be disproportionately younger users";[648] its conclusion that so-called problematic use causes profound harms, including loss of productivity, sleep disruption, relationship impacts, and safety risks;[649] its identification of multiple Meta platform features that act as triggers for so-called problematic use;[650] its knowledge that teens who feel addicted to a Meta app "know that what they're seeing is bad for their mental health but feel unable to stop themselves";[651] its studies regarding body image and social comparison;[652] its knowledge that Instagram makes body image issues worse "for one in three

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understand 'problematic' use (sometimes called 'social media addiction' externally"); Haugen_00005458 at Haugen_00005473 (Nov. 5, 2019 report by Meta employee regarding "Hard Life Moments – Mental health deep dive"); Haugen_00007055 at Haugen_00007055 (May 6, 2019 memo by Meta employee regarding "Problematic use / time-spent papers at CHI").

[645] Haugen_00016373 at Haugen_00016381 (Mar. 9, 2020 internal presentation and discussion about problematic use).

[646] Haugen_00016373 at Haugen_00016381.

[647] Haugen_00016373 at Haugen_00016383.

[648] Haugen_ 00017177 at Haugen_00017181 (Oct. 30, 2018 report by Meta employee regarding "How Behavior on Instagram Varies with Overall Time Spent"); Haugen_00005458 at Haugen_00005750-Haugen_00005751 (Sept. 18, 2019 presentation containing slides about brain maturation).

[649] Haugen_00016373 at Haugen_00016414 (Mar. 9, 2020 presentation stating "All problematic users were experiencing multiple life impacts").

[650] Haugen_00016373 at Haugen_00016410 ("We heard about 10+ triggers contributing to PU habits").

[651] Haugen_00017069 at Haugen_00017171 (Oct. 10, 2019 report by Meta employee and discussion about teens' mental health).

[652] Haugen_00005458 at Haugen_00005484 (Sept. 18, 2019 presentation regarding "Mental Health Findings"); Haugen_00000797 at Haugen_00000797 (Nov. 16, 2018 report regarding "IG Social Comparison Research Findings").

teen girls";[653] its analysis showing that topics eliciting appearance comparison comprise one third of what teen girls see on Instagram;[654] its research concluding that negative social comparison on Instagram gets worse for users over time;[655] its awareness that teens report Instagram as a source of increased anxiety and depression;[656] its finding that Instagram has a "consistent bias in favor of harmful content";[657] its knowledge that Meta's recommendation algorithms "create an echo chamber" of suicide and self-harm content;[658] its researchers' conclusion that teens "[h]ave an addict's narrative about their use" of Instagram;[659] and its survey finding that "[o]ver one third of teens felt they have only a little control of no control at all over how Instagram makes them feel"[660]—in addition to the other findings described in this Complaint.

504. Meta's years-long concealment of its research was revealed just weeks later, when Frances Haugen released these studies, along with a trove of other internal Meta documents, to the *Wall Street Journal*. Even these disclosures did not reveal the full scope and extent of Meta's

[653] Haugen_00005458 at Haugen_00005500 (Sept. 18, 2019 presentation containing a slide stating "But, We Make Body Image Issues Worse for 1 in 3 Teen Girls").

[654] Haugen_00002527 at Haugen_00002527 (Mar. 9, 2021 report regarding "How the topics people see are linked to appearance comparison on IG").

[655] Haugen_00000797 at Haugen_00000875 (Nov. 16, 2018 report containing a page displaying data about negative social comparison over time).

[656] Haugen_00017069 at Haugen_00017121 (Oct. 10, 2019 presentation containing a slide regarding "Teens blame Instagram for increases in the rates of anxiety and depression among teens").

[657] Haugen_00003739 at Haugen_00003739 (Undated report regarding "Is Instagram Reels Favoring badness?").

[658] Haugen_00005378 at Haugen_00005379 (Dec. 2, 2020 report regarding "Tackle Community-Based Harm in Dangerous Content").

[659] *Subcomm: Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms).

[660] *Id.*

misrepresentations, discussed elsewhere in this Complaint.

505. On September 21, 2021, Senator Blumenthal confronted a Meta representative about the conspicuous omissions in Meta's response to his letter:

> Last month, on August 4, Senator Blackburn and I wrote to Mark Zuckerberg and asked him specifically about this issue. We asked, and I'm quoting, "Has Facebook's research ever found that its platforms and products can have a negative effect on children's and teens' mental health or well-being such as increased suicidal thoughts, heightened anxiety, unhealthy usage patterns, negative self-image, or other indications of lower well-being?"
>
> It wasn't a trick question. It preceded the reports in the Journal. We had no idea about the whistleblower documents that were ultimately revealed.
>
> Facebook dodged the question. "We are not aware of a consensus among studies or experts about how much screen time is too much."
>
> We are not aware. Well, we all know now that representation was simply untrue.[661]

506. Senator Blumenthal went on to ask the witness, Steve Satterfield, Facebook's Vice President of Privacy & Public Policy, "why did Facebook misrepresent its research on mental health and teens when it responded to me and Senator Blackburn?" After disputing the characterization, Satterfield responded, "The safety and well-being of the teens on our platform is a top priority for the company. We're going to continue to make it a priority. This was important research." Senator Blumenthal then went on: "Why did you conceal it?" Satterfield responded, "we didn't make it public because we don't, with a lot of the research we do because we think that is an important way of encouraging free and frank discussion within the company about hard issues."[662]

507. Meta unilaterally decided to prioritize "free and frank" internal discussion over honest

[661] Richard Blumenthal, *Blumenthal Demands Facebook Appear at Next Week's Consumer Protection Subcomm. Hearing to Explain Coverup of its Platforms' Negative Impact on Teens and Children* (Sept. 21, 2021), https://www.blumenthal.senate.gov/newsroom/press/release/blumenthal-demands-facebook-appear-at-next-weeks-consumer-protection-subcommittee-hearing-to-explain-coverup-of-its-platforms-negative-impact-on-teens-and-children.

[662] *Id.*

and transparent responses to direct questions from sitting United States Senators. When it "dodged, ducked, sidetracked, [and] in effect misled" Senators Blumenthal and Blackburn, Meta also deceived the public.[663]

508. Moreover, Satterfield's "free and frank discussion" excuse has been contradicted both internally and publicly by Meta employees. On January 8, 2020, a Meta software engineer participated in an internal "ask me anything" session on the last day of his four-year tenure at the company. When asked how the Meta Defendants should respond to outside pressures and critiques, the software engineer stated: "Right now, many employees feel that if they whistleblow, dissent, give feedback to unethical decisions, etc, then they are at risk for being fired. We can fix that by giving people the safety to speak up when they see something wrong going on."[664]

509. Frances Haugen echoed this sentiment in her testimony before the Senate, citing evidence that Meta "is so scared of even basic transparency that it goes out of its way to block researchers who are asking awkward questions."[665] Ms. Haugen further testified that Meta's culture emphasizes insularity and promotes the idea that "if information is shared with the public, it will just be misunderstood."[666]

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[663] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower; *see also Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower (statement by Senator Brian Schatz to Frances Haugen that he had "a long list of misstatements, misdirections and outright lies from the company").

[664] Haugen_00007481 at Haugen_00007492 (Jan. 8, 2020 report regarding "Political Ads Announcement Preview [Confidential]").

[665] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[666] *Id.*

510. The above representations of former employees are consistent with reports from Facebook content moderators that there is a "culture of fear and excessive secrecy" within Meta that "prevent[s] [them] from speaking out."[667]

511. Notably, Meta's pattern of concealment did not end after Frances Haugen came forward. On September 30, 2021, Antigone Davis, Facebook's Head of Safety, testified before the Senate. Ms. Davis represented that, when Instagram "do[es] ads to young people, there are only three things that an advertiser can target around: age, gender, location. We also prohibit certain ads to young people, including weight-loss ads."[668] She further testified, "We don't allow the sexualization of minors on our platform."[669] A study by the Technology Transparency Project proved this was false.[670]

512. Ms. Davis's statements were subsequently proven false by Senator Mike Lee. During an October 2021 hearing, Senator Lee explained that a group called the Technology Transparency Project ("TTP") alerted the U.S. Senate that it had gained Facebook's approval to target a series of harmful ads to up to 9.1 million users between the ages of 13 and 17.[671] While TTP did not actually

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[667] Zoe Schiffer, *Facebook Content Moderators Call for Company to Put an End to Overly Restrictive NDAs*, The Verge (Jul. 22, 2021), https://www.theverge.com/2021/7/22/22587757/facebook-content-moderators-ireland-end-restrictive-ndas.

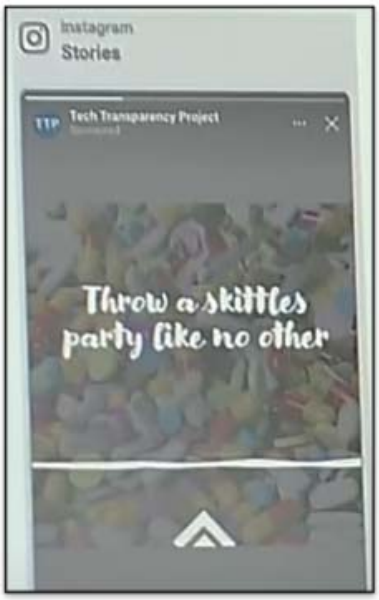
[668] Subcomm: *Protecting Kids Online: Facebook, Instagram, and Mental Health Harms Hearing before Subcomm. On Consumer Protection Product Safety, and Data Security* (Sept. 30, 2021), https://www.commerce.senate.gov/2021/9/protecting-kids-online-facebook-instagram-and-mental-health-harms.

[669] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[670] *See Id.*

[671] *See Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

run the ads, approval from Meta to do so demonstrates that the company allows harmful targeted advertising toward minors. Senator Lee showed three examples of these Meta-approved ads, shown



below[672]:

513. The first ad encourages children to "[t]hrow a skittles party like no other" and displays the suggestion against a background of colorful prescription pills. The second ad promotes an "Ana Tip" instructing the viewer to "visit pro-ana sites to feed your motivation and reach your goal" when feeling hungry. The third ad informs the viewer that they "look lonely" and encourages them to "[f]ind your partner now to make a love connection."

514. Senator Lee stated that based on the Meta Defendants' approval of these pro-drug, pro-anorexia, pro-sexualization ads targeted to children aged 13 to 17, "[o]ne could argue that it proves that Facebook is allowing and perhaps facilitating the targeting of harmful adult-themed ads to our nation's children."[673]

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[672] These screen captures were taken from a video of the October 5, 2021 Senate Hearing with witness Frances Haugen. *See Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[673] *Id.*

515. In addition to the litany of misrepresentations and omissions identified above, Meta has repeatedly failed to tell the truth about the age of users on Instagram. In statements to Congress and elsewhere, Zuckerberg has represented that Meta does not allow users under the age of 13 to use the platform. For example, in testimony before the U.S. House of Representatives Committee on Energy and Commerce, Zuckerberg stated: "There is clearly a large number of people under the age of 13 who would want to use a service like Instagram. We currently do not allow them to do that."[674]

516. However, as shown above, Meta has long known that its platforms are widely used by children under the age of 13. In fact, Meta knows through retrospective cohort analyses that "up to 10 to 15% of even 10 year-olds in a given cohort may be on Facebook or Instagram."[675] Meta is also aware that teenagers coach tweens, defined by them as 10- to 12-year-olds, on how to use its platforms.[676]

517. Indeed, far from acknowledging the serious problems with its platforms and warning

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[674] *Disinformation Nation: Social Media's Role in Promoting Extremism and Misinformation Hearing Before H. Energy and Commerce Subcomm. on Communications and Technology* 175 (March 25, 2021), https://www.congress.gov/117/meeting/house/111407/documents/HHRG-117-IF16-Transcript-20210325.pdf (Zuckerberg: "[O]ur policies on-on the main apps that we offer generally prohibit people under the age of 13 from using the services."); *See also Transcript of Zuckerberg's appearance before House committee*, Washington Post (April 11, 2018), https://www.washingtonpost.com/news/the-switch/wp/2018/04/11/transcript-of-zuckerbergs-appearance-before-house-committee/?utm_term=.e7b476fb8ac7&noredirect=on (When asked if it is correct that children can get a Facebook account starting at age 13, Zuckerberg confirmed that it was correct); see also NewSchools Venture Fund, *NewSchools Summit 2011: John Doerr and Mark Zuckerberg on innovation and education* (May 24, 2011), https://www.youtube.com/watch?v=n03zAOadyMA (Zuckerberg: "[A]nd so basically, we don't allow people under the age of 13 on Facebook . . . today we don't allow people under the age of 13 to sign up").

[675] *Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security* (Oct. 5, 2021), https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower.

[676] Haugen_00016728 at Haugen_00016736-Haugen_00016740.

children and parents of the same, Meta has launched advertising campaigns designed to encourage more children to use its platforms—by touting the purported safety of those platforms. For example, in a recent television ad, Meta claimed that it "build[s] technology that gives you more control and helps keep you safe[,]" including through its "industry leading AI" and other "tools that can protect—so you can connect." This advertisement featured children, as in the screenshot below. Other advertising campaigns have similarly touted Meta's AI as being a feature that contributes to its platforms' safety—without disclosing the serious problems identified in this Complaint.[677]

518. In another example of advertising that promotes use by children, a Meta 2021 online advertisement actively highlighted the posts available for fifth grade children on its Facebook platform, highlighting the experience of an art teacher who used Facebook to communicate with students during the pandemic—an experience the video noted was "a lot to unpack for little, tiny people." [678]

519. Meta only continues to hide the harms its platforms cause. On November 7, 2023, a second Meta whistleblower testified before a Senate subcommittee about the ways in which Meta has failed to act to protect its teenage users.[679] Arturo Bejar, a former Facebook engineering director and Instagram consultant, testified that Meta leadership was aware of prevalent harms to its youngest users but declined to take adequate action in response.

520. Bejar testified that he informed Chief Product Officer Chris Cox of research into platform harms to teens and that Cox acknowledged he was already aware of the statistics. Bejar found this response "heartbreaking because it meant that they knew it and they were not acting on it."[680]

[677] *See* AG Compl. para. 390.

[678] *See Id.* at para. 391.

[679] Lauren Feiner, *Meta Failed to Act to Protect Teens, Second Whistleblower Testifies*, CNBC (Nov. 7, 2023), https://www.cnbc.com/2023/11/07/meta-failed-to-act-to-protect-teens-second-whistleblower-testifies.html.

[680] *Id.*

521. Similarly, Bejar turned over emails that showed he raised similar concerns to top Meta leaders. In an email to Mark Zuckerberg, then-Meta COO Sheryl Sandberg, and Instagram CEO Adam Mosseri dated October 5, 2021, Bejar noted that "51% of Instagram users say 'yes' to having had a bad or harmful experience in the last 7 days."[681] Bejar also flagged to Zuckerberg that one survey showed almost 40 percent of 13-15 year olds said "they experienced negative comparison" while on Instagram.[682]

522. Less than two weeks later, on October 14, 2021, Bejar raised similar concerns to Adam Mosseri.[683] Bejar testified that he never received a response from or met with Zuckerberg or Sandberg.[684] He further testified that he thought Meta would "take [his] concerns and recommendations seriously. Yet years have gone by and millions of teens are having their mental health compromised and are still being traumatized."[685]

523. Bejar drew three conclusions in his Senate testimony. "One, Meta knows the harm that kids experience on their platform. And executives know that their measures fail to address it. Two, there are actionable steps that Meta could take to address the problem. And three, they are deciding time and time again to not tackle these issues."[686]

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[681] Bejar Whistleblower Documents at 109, https://www.blumenthal.senate.gov/imo/media/doc/1172023bejardocuments.pdf.

[682] *Id.*

[683] *Id.* at 112-13.

[684] Lauren Feiner, *Meta Failed to Act to Protect Teens, Second Whistleblower Testifies*, CNBC (Nov. 7, 2023), https://www.cnbc.com/2023/11/07/meta-failed-to-act-to-protect-teens-second-whistleblower-testifies.html.

[685] *Id.*

[686] *Former Meta Executive Testifies on Social Media and Youth Mental Health*, at 27:30-27:59, C-SPAN (Nov. 7, 2023), https://www.c-span.org/video/?531650-1/meta-executive-testifies-social-media-youth-mental-health.

Protecting Kids Online: Testimony from a Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021) https://www.commerce.senate.gov/2021/10/protecting%20kids%20online:%20testimony%20from%20a%20facebook%20whistleblower; *see also Protecting Kids Online: Testimony from a*

5. Meta facilitates the spread of CSAM and child exploitation.

524. Various design features of Meta's platforms promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

525. Meta's design features and conduct exacerbating the spread of CSAM causes Plaintiffs to be required to divert and increase resources and expenditures to provide education, counselling, disciplinary and other social services to harmed minors.

526. Meta has long known about these outcomes.[687] In 2010, the *Daily Mail* in the United Kingdom reported that a pedophile used Facebook to groom up to 1,000 children for sex. Detectives "praised the 'brave young people' who helped" catch this predator but attacked Meta, saying "many sickening incidents could have been avoided if the social networking site had installed a 'panic button' which allows youngsters to alert authorities if they suspect they were being groomed."[688]

527. In 2013, the *Christian Science Monitor* reported that Facebook is a "favorite recruiting ground[]" for child sex traffickers.[689]

528. In 2017, *The Times* in the U.K. reported that Facebook "failed to take down dozens of images and videos that were 'flagged' to its moderators, including . . . several violent paedophilic

Facebook Whistleblower Hearing before Subcomm. On Consumer Protection, Product Safety, and Data Security (Oct. 5, 2021).

[687] *See, e.g.*, Michael H. Keller and Gabriel J.X. Dance, The Internet Is Overrun With Images of Child Sexual Abuse," N.Y. Times (Sept. 29, 2019), https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html.

[688] Michael Seamark, *Paedophile postman used Facebook and Bebo to groom up to 1,000 children for sex*, DailyMail.com (May 28, 2010), https://www.dailymail.co.uk/news/article-1282157/Facebook-grooming-How-pervert-postman-used-site-groom-hundreds-children.html.

[689] Marjorie Kehe Staff, *Kimberly Ritter stands up to child sex trafficking in US hotels*, The Christian Science Monitor (Mar. 15, 2013), https://www.csmonitor.com/World/Making-a-difference/2013/0315/Kimberly-Ritter-stands-up-to-child-sex-trafficking-in-US-hotels.

cartoons" and "a video of an apparent sexual assault on a child."[690]

529. In 2019, the *Sunday Times*, also in the U.K., reported that "Instagram is steering paedophiles towards accounts belonging to children as young as 11, who should not be on the platform in the first place."[691]

530. Despite its awareness from over a decade of red flags, Meta promotes its platforms as safe and family-friendly and claims that its platform features are designed to remind adolescent users who they are sharing with and to limit interactions with strangers.[692] This is simply not the case. Meta not only tolerates child exploitation, it knowingly assists, supports, and/or facilitates child exploitation through its platform features.

531. Meta also fails to enforce its own policies regarding adolescent users and does not incorporate simple, cost-effective technologies into the design of its platforms that would help reduce the prevalence of CSAM. Adolescent users are harmed by Meta's platforms, which are unreasonably dangerous for them.

532. For example, Facebook's "People You May Know" feature helps predators connect with underage users and puts them at risk of sexual exploitation, sextortion, and production and distribution of CSAM; 80% of "violating adult/minor connections" on Facebook were the result of this friend recommendation system.[693] Instagram's "Suggested for You" and "Because You Watched" features are similarly dangerous because they connect strangers, including adult predators, with adolescent users. As *The Sunday Times* revealed, "[p]redators who follow users

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[690] Alexi Mostrous, *Facebook publishing child pornography*, The Times (Apr. 13, 2017), https://www.thetimes.co.uk/article/facebook-publishing-child-pornography-pdgt87nm6?region=global.

[691] Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, The Sunday Times (Dec. 1, 2019), https://www.thetimes.co.uk/article/instagram-sends-predators-to-accounts-of-children-as-young-as-11-j2gn5hq83. Meta was aware of this report. META3047MDL-003-00153063.

[692] *Safety Resources for Parents*, Meta Privacy, Safety, and Security https://www.facebook.com/help/1079477105456277?helpref=faq_content.

[693] META3047MDL-003-00013254 at META3047MDL-003-00013255.

posting photos of young models, dancers or gymnasts are shown a stream of other images they will like and targeted with personalised recommendations of accounts to follow. Among the suggested accounts are newly created profiles belonging to children who would otherwise be almost impossible to find unless you had their user name."[694]

533. Similarly, the absence of effective age verification measures, as described above, allows predators to lie about their ages and masquerade as children, with obvious dangers to the actual children on Meta's platforms. Prior to November 2022, the default setting for Facebook users' profiles allowed posts to be publicly viewable by any user. This allowed predators to discover and connect with adolescent users. The same is true for users' friends lists.

534. Instagram is similarly flawed, having transitioned to private profiles for users under 16 only in July 2021. Up until that change—and even after—millions of minors are left exposed to predation and at risk of extortion and abuse by default. Indeed, *The Sunday Times* reported that "[o]ne of those brought to the surface by Instagram's algorithm contained selfies of a young girl and a profile description that read: "Hey people hope you decide to follow me im 11."[695]

535. Distressingly, Meta considered making teenage users' profiles "private by default" at least as early as July 2020, but chose not to do so after pitting "safety, privacy, and policy wins" against "growth impact."[696]

536. Meta's platforms also include direct messaging features. Instagram's direct messaging system is equipped with a platform feature called a "photo bomb," which is an image or video sent from a smartphone that automatically disappears from the recipient's inbox. Both Facebook's and Instagram's messaging systems also have a "Vanish Mode" option, which makes the message disappear after it has been read.

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[694] Shanti Das & Geoff White, *Instagram sends paedophiles to accounts of children as young as 11*, The Sunday Times (Dec. 1, 2019), https://www.thetimes.co.uk/article/instagram-sends-predators-to-accounts-of-children-as-young-as-11-j2gn5hq83.

[695] *Id.*

[696] META3047MDL-003-00028226 at META3047MDL-003-00028226; META3047MDL-003-00013254 at META3047MDL-003-00013254.

537. Meta's messaging features allow users to exchange private messages with other platform users. In addition, users do not have to be connected as friends or followers to initiate conversations, which enables predators to communicate privately with youth, with virtually no evidence of what was exchanged. This feature enables predators to identify children who are willing to respond to a stranger's message, and then prey on their insecurities. Even though "this is the kind of thing that pisses Apple off to the extent of threatening to remove us from the App Store," as of mid-2020, Meta had no timeline for "when we'll stop adults from messaging minors in IG Direct."[697] That remained true even after Meta received reports that a 12-year-old minor solicited on its platform "was [the] daughter of [an] Apple Security Exec."[698]

538. An internal study conducted in or around June 2020 concluded that 500,000 underage Instagram accounts "receive IIC"—which stands for "inappropriate interactions with children"—on a *daily* basis.[699] Yet, at the time, "Child Safety [was] explicitly called out as a non-goal . . . So if we do something here, cool. But if we can do nothing at all, that's fine, too."[700]

539. Meta's platforms also permit users to operate multiple accounts simultaneously. Operating multiple accounts enables adolescent users to have multiple unique online identities. In addition, parents are often unaware that more than one account exists, and therefore do not monitor the additional accounts as they would the primary, known account. By permitting multiple accounts, Meta compounds children's exposure to danger on its platforms and hampers parents' attempts to monitor their children's activities.

540. Meta's platforms also utilize a location feature that allows users to geotag the location where a photo was taken or from where a post is being made. On Facebook, users can search posts by location and find pages and groups by the location tagged in a user's post. Similarly, Instagram

[697] META3047MDL-003-00028019 at META3047MDL-003-00028019.

[698] META3047MDL-003-00028019 at META3047MDL-003-00028020.

[699] META3047MDL-003-00028214 at META3047MDL-003-00028216-META3047MDL-003-00028218.

[700] META3047MDL-003-00028214 at META3047MDL-003-00028215.

users can use the Explore tool to search for posts based on location tags.

541.

542. Meta's policies fail to adequately protect children, especially teens. Meta created its own definition of CSAM that fails to sufficiently meet the clear requirements provided in 18 U.S.C. § 2256(8) and related case law. Meta relies on its own definitions to fail to report harmful CSAM to the authorities as required by law.[701] For example, Meta utilizes the Tanner Stages, a classification system used to track children's physical development during puberty, to assist with making moderation decisions related to potential CSAM. The scale's creator, Dr. James Tanner, has called this approach "wholly illegitimate."[702]

543. In fact, the United States Department of Justice ("DOJ") urged Zuckerberg to refrain from implementing dangerous design modifications to his platforms, "embed the safety of the public in system designs," and "act against illegal content effectively with no reduction to safety," in ways that safeguard victims.[703]

544. In November 2021, Meta indicated that it would postpone certain platform design changes, such as encrypting direct messages on Instagram, that would create an increased risk and volume of CSAM within its platforms. However, in January 2022, it implemented those changes to its Messenger application, increasing risks to vulnerable children and the volume of predators and CSAM without sufficient warning.[704] In 2019, FBI Director Christopher Wray stated that, with the design decision to encrypt Messenger, absent additional protections for children, Facebook would

[701] Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook,* N.Y. Times (Mar. 31, 2022), https://www.nytimes.com/2022/03/31/business/meta-child-sexual-abuse.html.

[702] *Id.*

[703] Letter to Mark Zuckerberg from Department of Justice 2 (October 4, 2019), https://www.justice.gov/opa/press-release/file/1207081/download .

[704] Timothy Buck, *Express Yourself in Messenger's End-to-End Encrypted Chats*, Messenger News (Jan. 27, 2022), https://messengernews.fb.com/2022/01/27/express-yourself-in-messengers-end-to-end-encrypted-chats/.

become "a dream-come-true for predators and child pornographers. A platform that allows them to find and connect with kids, and like-minded criminals, with little fear of consequences. A lawless space created not by the American people, or their elected officials, but by the owners of one big company."[705]

545. Even further compounding these problems, Meta has "instructed content moderators for its platforms to 'err on the side of an adult' when they are uncertain about the age of a person in a photo or video, according to a corporate training document."[706]

546. Shortly after Frances Haugen disclosed how Meta's platforms harm children, an unnamed whistleblower and former Facebook employee revealed in a five-page document that Meta's efforts to address the prevalence of CSAM within its platforms were "inadequate" and "under-resourced."[707] This whistleblower also stated that Meta "doesn't track" the full scale of the CSAM problem within its platforms because senior executives consistently limit the funds available for child protection design efforts, by instead focusing on the company's "return on investment."[708]

547. Instead of taking these crucial, life-saving actions, Meta misleadingly asserts that when it "become[s] aware of apparent child exploitation, we report it to the National Center for Missing and Exploited Children (NCMEC), in compliance with applicable law."[709] But Meta's response to law enforcement inquiries is often significantly delayed, if they respond at all, and Meta

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[705] Raphael Satter & Sarah N. Lynch, *FBI Director Warns Facebook Could Become Platform Of 'Child Pornographer'*, Reuters (Oct. 4, 2019), https://www.reuters.com/article/us-facebook-security/fbi-director-warns-facebook-could-become-platform-of-child-pornographers-idUSKBN1WJ1NQ.

[706] Michael H. Keller, *Adults or Sexually Abused Minors? Getting It Right Vexes Facebook,* N.Y. Times (Mar. 31, 2022), https://www.nytimes.com/2022/03/31/business/meta-child-sexual-abuse.html.

[707] Angus Crawford, *Whistleblower: Facebook's* response *to child abuse 'inadequate',* BBC News, (Oct. 28, 2021) https://www.bbc.com/news/technology-59063768.

[708] *Id.*

[709] Meta, *Meta's Child Sexual Exploitation, Abuse and Nudity, Facebook Community Standards*, https://transparency.fb.com/policies/community-standards/child-sexual-exploitation-abuse-nudity/.

further frustrates law enforcement investigations by failing to promptly report child sexual exploitation.[710]

548. As a result, Meta's platforms are polluted with illegal material that promotes and facilitates the sexual exploitation of minors. Meta benefits from increased user activity (and increased advertising revenue) for disseminating these materials on its platforms.

549. Meta knows that its platforms are used for the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that depict obscene visual representations of the sexual abuse of children each year. Meta also knows that its defective algorithms worsen the problem: "CEI (Child Expolitative [sic] Imagery) is . . . something people seek out, and our recommendations can make worse."[711]

550. Meta knowingly fails to take adequate and readily available measures to remove these contraband materials from its platforms in a timely fashion.

551. In violation of 18 U.S.C. § 2258A, Meta knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

552. Meta knows, or reasonably should have known, that its platforms are increasingly unsafe for children each year, and yet fails to implement safeguards to prevent children from accessing its platforms.

553. In addition to these dangerous features that enable CSAM and child exploitation, Meta's platforms hamper identification and reporting of CSAM or child pornography. For example, they do not allow a person to report harmful content without first logging into and using the

[710] *See* Michael H. Keller & Gabriel J. X Dance, *The Internet Is Overrun With Images Of Child Sexual Abuse. What Went Wrong?,* N.Y. Times (Sept. 29, 2019), https://www.nytimes.com/interactive/2019/09/28/us/child-sex-abuse.html (describing the proliferation of CSAM on social media apps and the way the apps have hampered law enforcement investigations).

[711] META3047MDL-003-00068860 at META3047MDL-003-00068861.

platforms, which requires them to sign up for an account and provide a name and email address.[712]

554. Neither Instagram nor Facebook contain platform features that allow users to report harmful images or videos directly from their direct messaging features.[713]

555. Meta's platforms also offer unreasonably inadequate parental controls; for example, parents cannot monitor their child's account without logging into the child's account directly.

556. Collectively, these features, and lack of features, make it difficult for parents to monitor their child's use of Meta's platforms, and they enable predators to identify, connect to, and exploit children.[714]

557. Moreover, the exploitation of children has devastating impacts on their mental and emotional health. Accordingly, a direct and foreseeable consequence of Meta's conduct is harm to Local Government and School District Plaintiffs, who are tasked with caring for minors on a nearly daily basis and providing critical educational, counseling, mental health, and other social, legal, and disciplinary services to minors. Plaintiffs are left addressing the harms caused by Defendants' enabling of predators to exploit children.

6. Meta failed to adequately warn Plaintiffs or the public about the dangers and harms caused by Instagram and Facebook, or provide instructions regarding safe use.

558. Meta has failed to adequately warn the public, including Plaintiffs and the children and parents within their schools and communities, about the physical and mental health risks posed by Instagram and Facebook and the increased resources that Plaintiffs would need expend to address the youth mental health crisis it caused. The risks to minors include a plethora of mental health disorders, such as compulsive use, addiction, eating disorders, anxiety, depression, insomnia,

[712] Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms* 16, https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf (last accessed December 28, 2022).

[713] *Id.*

[714] Hany Farid, *Reining in Online Abuses*, 19 Technology and Innovation 593-599 (2018), https://farid.berkeley.edu/downloads/publications/nai18.pdf.

exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-harm, and death. The risks to Plaintiffs include having to increase and divert human and financial resources to address the mental health and disciplinary issues of students and minors in their communities as Plaintiffs seek to fulfill their mission (and obligation) to provide America's youth with educational, counselling, health, and other social and disciplinary services and public facilities.

559. Meta knew or should have known its design choices and conduct would have a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities, and would lead to Plaintiffs' increased expenditures and diverted resources and should have warned of such.

560. Meta targets adolescent users via advertising and marketing materials distributed throughout digital and traditional media that fail to provide sufficient warnings to potential adolescent consumers or their parents, teachers, or caregivers, of the physical and mental risks associated with using Facebook and Instagram.

561. Meta also fails to adequately warn the students and schools and local governments that utilize the platform during the platform registration process. At account setup, neither Instagram nor Facebook contain warning labels, banners, or conspicuous messaging to adequately inform adolescent users or their parents of the known platform risks and potential physical and mental harms associated with usage. Instead, Meta allows adolescent users, including those under the age of 13, to easily create an account (or multiple accounts) and fully access these platforms.

562. Meta's failure to warn continues even as adolescents exhibit problematic signs of addiction to, and compulsive use of, Facebook or Instagram. For example, Meta does not warn users when their screen time reaches harmful levels or when adolescents are accessing the platform habitually or provide instructions on how to safely use its platforms.

563. Despite proactively providing adolescent users with countless filtering and editing tools, Meta also does not appropriately warn adolescent users regarding which images have been altered, or the mental health harms associated with the heavily filtered images that Meta presents and recommends.

564. Meta also failed to warn Plaintiffs about the dangerous, addictive nature of its

platform, the resulting harms that occur from use of its platforms, and that Plaintiffs would be required to divert and expend additional human and financial resources to provide support to harmed minors through education, counseling, mental health, and other social, and disciplinary services required to be provided by Plaintiffs to address the youth mental health crisis.

565. Meta's failure to properly warn and instruct adolescent users and their parents as well as its failure to warn Plaintiffs has proximately caused significant harm to Plaintiffs, who have expended, and continue to expend, significant resources addressing the impact of Meta's conduct on Plaintiffs' operations, including expending additional resources to provide support to impacted children and families.

C. FACTUAL ALLEGATIONS AS TO SNAP

1. Background and overview of Snapchat.

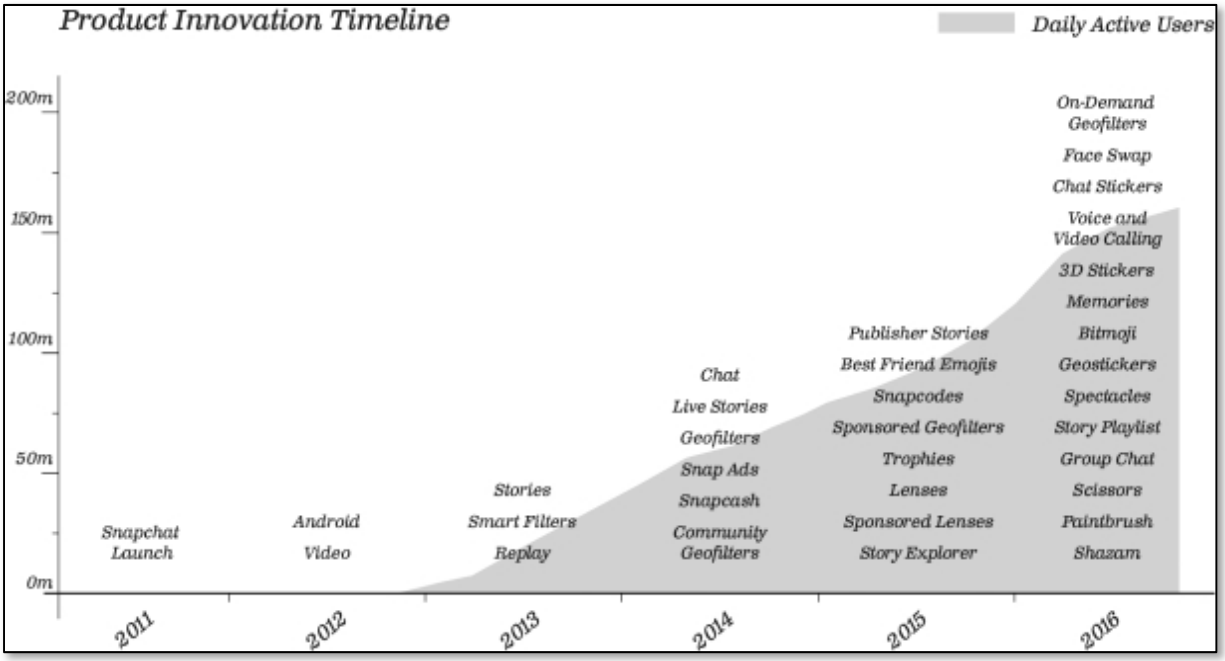
566. Snap owns and operates the Snapchat social media platform, an application that is widely marketed by Snap and available to users throughout the United States. The company was founded in 2011 by three Stanford students, Reggie Brown, Evan Spiegel, and Bobby Murphy. It began as a simple application designed to allow a user to send pictures, called "Snaps," to a friend that disappear after they are viewed. As Snap's founder and CEO Evan Spiegel has explained, "today . . . pictures are being used for talking. So when you see your children taking a zillion photos of things that you would never take a picture of, it's cos [sic] they're using photographs to talk. And that's why people are taking and sending so many pictures on Snapchat every day."[715]

567. Despite only gaining 127 users a few months after its launch, Snapchat began to market to high school students, who were drawn to the ephemeral nature of the platform's content. By 2012, Snapchat's user base had grown to more than 100,000 users and the company added video capabilities to its platform, pushing the number of Snaps to 50 million per day. Three years later, in

[715] Stuart Dredge, *What is Snapchat? CEO Evan Spiegel explains it all for parents*, The Guardian (June 17, 2015), https://www.theguardian.com/technology/2015/jun/17/what-is-snapchat-evan-spiegel-parents.

2015, the app had over 75 million daily active users—users who open Snapchat at least once during a 24-hour period.[716]

568. As their userbase expanded Snap worked to quickly add new features to its platform.[717]



569. Today, Snapchat is one of the world's most widely used apps. By its own estimates, Snapchat has 363 million daily users, including 100 million daily users in North America.[718] In addition, research has shown that 59% of teens report using the app daily and nearly half of all smartphone users in the United States, which equates to nearly 5 billion Snaps per day.[719]

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[716] Brian O'Connell, *History of Snapchat: Timeline and Facts*, TheStreet (Feb. 28, 2020), https://www.thestreet.com/technology/history-of-snapchat.

[717] *Id.*; *see also* Snap Inc., Registration Statement (Form S-1) (*hereafter* "Form S-1") at 1 (Feb. 2, 2017), https://www.sec.gov/Archives/edgar/data/1564408/000119312517029199/d270216ds1.htm.

[718] October 2022 Investor Presentation at 5, Snap Inc. (Oct. 20, 2022), https://investor.snap.com/events-and-presentations/presentations/default.aspx.

[719] *See* Jennifer Kingson, *Pew: Many Teens Use Social Media "Almost Constantly"*, AXIOS (Dec. 11, 2023), https://www.axios.com/2023/12/11/social-media-teens-pew-tiktok-youtube-instagram-facebook-bereal-snapchat; Pew Research Center, Teens, Social Media and Technology 2022 (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-

570. Like the other Defendants, Snap decided to monetize its userbase by selling advertisement space on its platform. Snap makes no secret of this practice, recently acknowledging that it relies

> heavily on our ability to collect and disclose data, and metrics to our advertisers so we can attract new advertisers and retain existing advertisers. Any restriction or inability, whether by law, regulation, policy, or other reason, to collect and disclose data and metrics which our advertisers find useful would impede our ability to attract and retain advertisers.[720]

Under this business model, advertisements became pervasive on Snapchat, and by 2018, 99% of Snapchat's total revenue came from advertising. In 2022, Snap's revenue was approximately $4.6 billion.[721]

571. To further effectuate this business strategy—and maximize its revenue—Snap incorporated several features into its platform that capitalize on children's attachment to quick, instantaneous exchanges and exploit children's need for social acceptance. These features have also been shown to cause users, particularly teens, to experience anxiety, depression, body dysmorphia, shame, sleep deprivation, and other serious mental and physical harms by manipulating them into sending an ever-increasing number of photographs and videos, sharing sensitive material—such as their geolocation, and rewarding users who maximize their engagement with elevated status.

572. Snap knows, or should know, that these features are harmful to adolescents, but consistently opts to prioritize increased profits over the well-being of its young users. And yet, despite this knowledge, Snap continues to update Snapchat with features intentionally designed to entice, exploit, and addict children to its platform.

573. Snap also knows, or should have known, that its conduct has negatively affected youth.

2022/; Snap Inc. Q4 2022 Investors Meeting Transcript at p. 7 (Jan. 31, 2023), https://s25.q4cdn.com/442043304/files/transcript/snap-inc.-q4-2022-transcript.pdf.

[720] *Id.*

[721] Snap Inc. Form 10-K at 18 (Dec. 31, 2022), https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf.

For example, Snap's conduct has been the subject of inquiries by the United States Senate, where Senator Ed Markey remarked "[t]he problem is clear: Big Tech preys on children and teens to make more money."[722] Senators from across the ideological spectrum have introduced bills that would ban many of Snapchat's features that are particularly addictive to adolescents.[723] Despite these calls for oversight from Congress, Snap has failed to curtail its use of features.

574. As described in detail below, Snap designed Snapchat to target adolescents and maximize their time spent on the platform through a variety of features, such as Snap streaks, badges, and other awards that reward users' level of engagement with Snapchat, which, ultimately, causes them harm.

2. Snap targets children.

a. Snap designed its Snapchat platform to cause excessive use by children to drive the company's revenue.

575. In May 2012, less than eight months after launching, CEO Evan Spiegel reported that the company was "thrilled" to learn that most of Snapchat's users were high school students sending "behind-the-back photos of teachers and funny faces" to each other during class. According to Spiegel, Snap's server data showed peaks of activity during the school day.[724]

576. More recently, in an October 2019 interview, Spiegel stated that "we've seen a lot of engagement with our 13-34 demographic, which for us is strategically a critical demographic, not only because that's a demographic that enjoys using new platforms but also because I think they

[722] Bobby Allyn, *4 Takeaways from the Senate child safety hearing with YouTube, Snapchat and TikTok*, National Public Radio (Oct. 26, 2021), https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing.

[723] *See* Abigal Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, National Public Radio (Aug. 3, 2019), https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill; *see also, e.g.*, Social Media Addiction Reduction Technology Act, S. 2314, 116th Cong. (2019); Kids Internet Design and Safety Act, S. 2918, 117th Cong. (2021).

[724] Team Snapchat, *Let's Chat*, Snapchat Blog at http://blog.snapchat.com (May 9, 2012), https://web.archive.org/web/20120518003029/http://blog.snapchat.com:80/..

represent, really, the future. . . . So that's obviously been a group that's been really fun to build for, and really it started because those are our friends."[725]

577. As part of its "pitch" to prospective advertisers, Snap touts its influence over what it calls the "Snapchat Generation."[726] For example, in a December 2022 statement to advertisers, Snap claimed that "Snapchat delivers on the emotions that Gen Z seeks and it does so consistently across the platform in areas like Discover, Stories and the Camera."[727] To prove this, Snapchat "used a neuroscience measurement called Immersion to measure reactions to different brand messaging—specifically brand purpose messaging vs. non-brand purpose messaging. Immersion captures attention and emotional resonance through variations in heart rate rhythm collected by smartwatches."[728]

578. According to Snap, "[a]ny brand or marketer can get on any app and *start targeting Gen Z* [emphasis added]. After all, Gen Z is digitally native. But to effectively connect and engage with this generation, that takes a different, more intentional type of platform: Snapchat."[729]

579. In addition, Snap's internal research indicates the Snapchat experience is "more immersive" than its competitors' platforms, which means users are more likely to keep watching videos (and advertising) than on other apps.[730] Other research shows that Snapchat's daily active users are constantly using its platform; compared to other apps, users are most likely to use Snapchat "right when I wake up," "before work/school," "during work/school," "after work/school," "on vacations," and "when I'm with others[.]"[731] The effectiveness of this strategy is reflected in the

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[725] *Evan Spiegel, Co-Founder and CEO of Snap, Inc*., Goldman Sachs, at 4:43-6:23. (Oct. 2, 2019), https://www.youtube.com/watch?v=PQiKv-GCQ-w.

[726] SNAP0000137 at 0139.

[727] Snap for Business, *What Does Gen Z Want From Brands?* Dec. 15, 2022), https://forbusiness.snapchat.com/en-US/blog/what-does-gen-z-want.

[728] *Id*.

[729] *Id*.

[730] SNAP0000103 at 0120.

[731] SNAP0000103 at 0113.

growth of Snap's advertising revenues was driven by changes Snap made to Snapchat that incentivized compulsive and addictive use at the expense of its users' health.

580. Snap understands that its user experience must be immersive and all-encompassing to maximize its advertising revenue. Indeed, Snap recently admitted to its investors that its revenue could be harmed by, among other things, "a decrease in the amount of time spent on Snapchat, a decrease in the amount of content that our users share, or decreases in usage of our Camera, Visual Messaging, Map, Stories, and Spotlight platforms."[732]

b. Snap promotes Snapchat to children

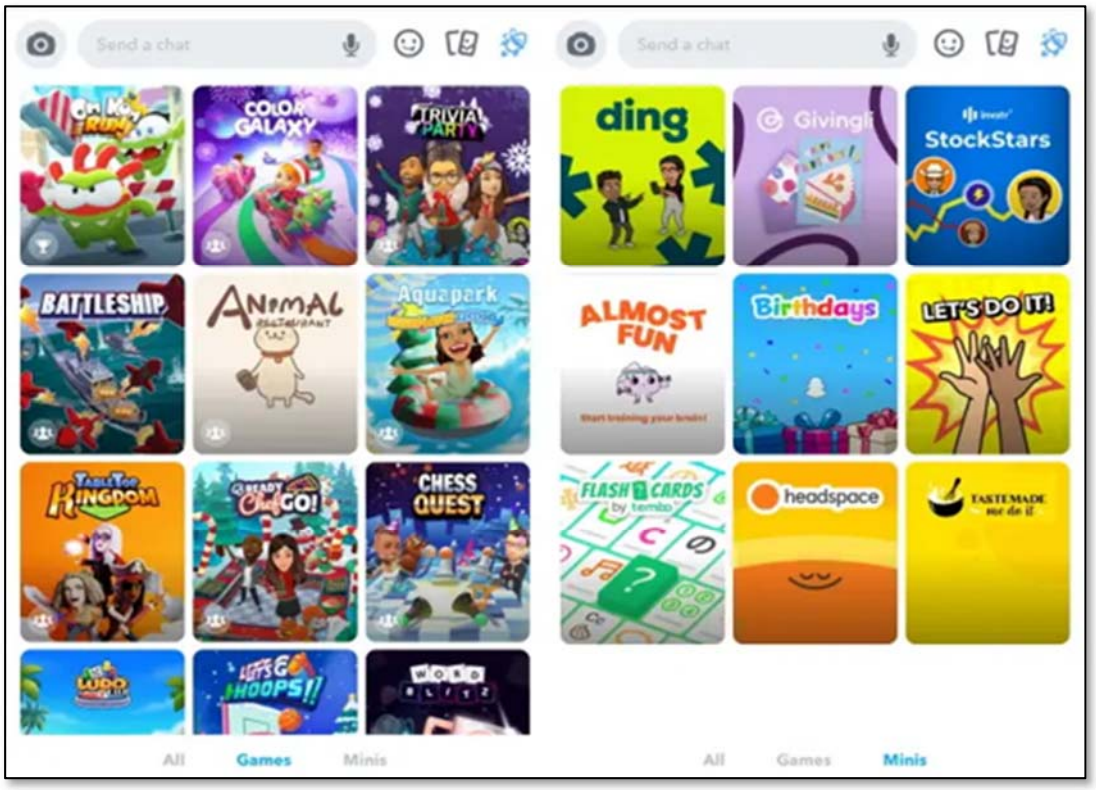
581. Snap specifically promotes and designs Snapchat to and for children because they are a key demographic for Snap's advertising business. In its first post on its website, Snapchat observed that:

> [t]o get a better sense of how people were using Snapchat and what we could do to make it better, we reached out to some of our users. We were thrilled to hear that most of them were high school students who were using Snapchat as a new way to pass notes in class—behind-the-back photos of teachers and funny faces were sent back and forth throughout the day.[733]

[732] Snap Inc., Annual Report (Form 10-K), at 19 (Dec. 31, 2022), https://d18rn0p25nwr6d.cloudfront.net/CIK-0001564408/c22ae9bd-7418-456e-82d4-48129de1df54.pdf.

[733] Team Snapchat, *Let's Chat*, Snapchat Blog (May 9, 2012), https://web.archive.org/web/20220523084954/https://newsroom.snap.com/lets-chat/.

582. As shown in this capture of a Snapchat feature page, created by Snap, Snap uses bright colors, cartoonish designs, and other features that appeal to younger audiences.



583. Snap also added as a feature, the ability for users to create cartoon avatars, called "Bitmojis," which are 2-D avatars modeled after themselves.[734] By using an artform generally associated with and directed at younger audiences, Snap further designed Snapchat to entice teenagers and younger children.

584. Snap has also targeted a younger audience by designing Snapchat in a manner that older individuals find hard to use.[735] The effect of this design is that Snapchat is a platform where its young users are insulated from older users, including their parents. As Snap's CEO explained,

[734] Kif Leswing, *Snapchat just introduced a feature it paid more than $100 million for*, Bus. Insider (July 19, 2016), https://www.businessinsider.com/snapchat-just-introduced-a-feature-it-paid-more-than-100-million-for-2016-7.

[735] *See* Hannah Kuchler & Tim Bradshaw, *Snapchat's Youth Appeal Puts Pressure on Facebook*, Fin. Times (Aug. 21, 2017), https://www.ft.com/content/07e4dc9e-86c4-11e7-bf50-e1c239b45787.

"[w]e've made it very hard for parents to embarrass their children[.]"[736] In addition, Snapchat to encourages teens to hide their activity from their parents by ensuring that photos, videos, and chat messages quickly disappear. Further insulating them from parental oversight.

585. In 2013, Snap launched a new feature called "Snapkidz" aimed at and designed to attract younger child users, while hedging against the potential user loss due to the new age limits. The Snapkidz feature allowed children under the age of 13 to take filtered photos, draw on them, save them locally on their devices, send them to others, and upload them to other apps.[737] Although this version prevented children from sharing "Snaps" on the platform, it nonetheless exposed children to Snapchat's features, which normalized and acclimatized children to using Snapchat. In addition, nothing prevented children from creating an unrestricted account with a false date of birth on Snapchat and using the platform outside the SnapKidz's limited features.[738]

586. Due to backlash from parents and in the news, SnapKidz was discontinued in 2016.

587. Snapchat's appeal to children is also reflected in the advertisements shown on the platform. Advertisers for brands like Sour Patch Kids, ToysRUs, and Kool-Aid have all run successful advertising campaigns on Snapchat, frequently using augmented reality tools developed in collaboration with Snap.

588. Snapchat's age verification systems are ineffective at best. For the first two years of its existence, Snap did not even purport to limit user access to those 13 or older.[739] Users were not

[736] Max Chafkin & Sarah Frier, *How Snapchat Built a Business by Confusing Olds*, Bloomberg (Mar. 3, 2016), https://www.bloomberg.com/features/2016-how-snapchat-built-a-business/.

[737] *Id.*

[738] *See* Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June 23, 2013), https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a; Anthony Cuthbertson, *Snapchat admits its age verification system does not work*, Independent (Mar. 19, 2019), https://www.independent.co.uk/tech/snapchat-age-verification-not-work-underage-ageid-a8829751.html.

[739] Team Snapchat, *iOS Update: Bug Fixes and More!*, Snapchat Blog (June 22, 2013), https://web.archive.org/web/20130627073951/http://blog.snapchat.com:80/.

required to input a date of birth when creating an account.[740]

589. Although the SnapKidz feature was discontinued in or around 2016. Snap now purports to prohibit users under the age of 13, but nothing prohibits the minor user from simply altering their birthdate during the same session where they were just denied an account for being an underage user. Snap could have implemented robust, effective age verification protocols. Instead, it has set up its business and platform so that there is no genuine effort to verify the age of its users, or to enforce its age limitations. Snap could, but intentionally does not, verify the phone number, email address, or birthdate used to create accounts, and it allows users to create multiple accounts using the same email address or phone number. In contrast, Snap will only cut off a user from its platform based on age if Snap has "actual knowledge that [the user is] under the age of 13."[741]

590. Snap's executives have admitted that Snapchat's age verification "is effectively useless in stopping underage users from signing up to the Snapchat app."[742] Not surprisingly, underage use is widespread. As of 2021, 13% of children aged 8-12 use Snapchat.[743]

591. Once Snapchat is installed on a user's mobile phone, the platform continues to download and install updates, design changes, and new features from Snapchat directly to its users.

592. Similarly, the absence of effective age-verification measures means that users who are older can claim to be children—which is an obvious danger to the actual children on Snap's platform.

593. The lack of effective age verification also precludes parents from implementing parental controls for minor Snapchat users, and compounds the effect of design feature harms to

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[740] *Id*.

[741] Snap Terms of Service, https://snap.com/en-US/terms.

[742] Isobel Asher Hamilton, *Snapchat admits its age verification safeguards are effectively useless*, Bus. Insider (Mar. 19, 2019), https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3.

[743] Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens*, 2021 at 5, Common Sense Media, https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

children.

3. Snapchat is designed to addict children through features that use targeted psychological manipulation techniques.

594. Once Snap entices and enables children to use its platform, it uses a series of features that are designed to addict children. These features can be broadly grouped into two categories: (1) features that use manipulation techniques that are highly effective on youth or (2) features designed to weaponize a user's data to keep users using Snapchat. These features, are known to cause addiction, compulsive use, and other severe mental and physical harm to Snapchat's young users, including children in Local Government and School District Plaintiffs' schools and communities.

a. Snap designed Snapchat to drive compulsive using a variety of social metrics invented by Snap.

595. Snapchat includes a variety of social metrics—such as Snapscores, Snap Streaks, and Snap Awards—that reward users when they engage with other users on Snapchat. Internal research by Snap has found these features are highly effective at instilling anxiety about not using Snapchat frequently enough—and competitor research has confirmed these features are addictive. In tandem with IVR—*e.g.*, push notifications, and design choices that make it difficult to stop using the Snapchat platform—these features induce compulsive use of the platform by children.

596. These manipulation techniques are so effective, in part, because ephemeral messaging creates a compulsion to engage with the Snapchat platform. Since Snaps typically disappear within ten seconds of being viewed, users feel compelled to reply immediately through a psychological desire to reciprocate the social gesture of sending a Snap.[744]

(i) Snapscores

597. Snapscores were one of the earliest features of the Snapchat platform. Originally

[744] Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015), https://www.nirandfar.com/psychology-of-snapchat/.

called "Hiscore," Snapscore keeps a running profile score based on a user's Snapchat activity, such as the number of Snaps sent and received or Stories posted.[745]

598. Although Snap does not disclose precisely how Snapscores work, sending and receiving a Snap increases the score by one point. Interacting with other platform features provides additional points. A user's Snapscore is visible on their profile, serves as a signifier of the user's "worth," and encourages users to further engage with Snapchat's features to increase their score. Snapscores are important to users, especially young users, because they operate as a form of social validation, similar to an Instagram "Like." Google has reported millions of searches for "How to improve Snap score." YouTube contains numerous videos with titles like "How to Increase Snapchat Score Fast."[746]

599. Snapscores also reward users who post videos that are viewed extensively. This encourages many to use Snapchat in harmful and dangerous ways, to increase the virality of their videos, and increase their Snapscore. As more users engage with and forward that video to others,

[745] Snapchat Support, *What is a Snap Score?*, ("Your Snapchat score is determined by a super-secret, special equation . . . ") https://support.snapchat.com/en-US/a/my-score.

[746] FozTech, *How to Increase Snapchat Score Fast! (100% Works in 2023)*, YouTube (Oct. 1, 2019), https://www.youtube.com/watch?v=m7s0hvQdTok (*How to Increase Snapchat Score Fast* has 4.3 million views as of April 17, 2023).

its creator is awarded with an increased Snapscore. Snapchat's rewards incentivize this dangerous behavior, resulting too often in physical harm or humiliation in the obsessive pursuit of social significance.

600. The sole purpose of Snapscore is to increase platform use and drive revenue.[747]

(ii) Trophies, Charms, and Stickers

601. Snap has also designed Snapchat to include user rewards, including trophies and other social recognition signals, similar to "Likes" on other apps. These features are highly addictive and drive compulsive use.

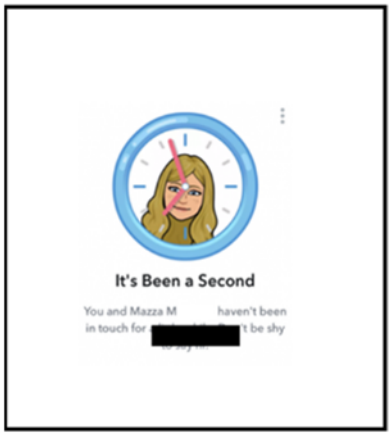
602. "Trophies" are emojis awarded for achieving engagement milestones or performing certain activities, such as increasing one's Snapscore, sending creative Snaps, or posting a live story. A user's "Trophies" are displayed in a "trophy box" viewable by their friends. Snap designed this feature to encourage users to share their videos and posts with the public, promote greater use of Snapchat, and deepen young users' addiction to, and compulsive use of, the platform.

603. In 2020, Snap phased out Trophies and replaced them with "Charms." Unlike Trophies, where users were rewarded for unlocking individual accomplishments like sending 1,000 selfies, Charms reward users for achieving certain milestones in their relationship with other users. Typically, the more users interact with one another, the more Charms they unlock in their relationship. Charms are private and viewable only by users' mutual contacts.

604. For example, if two users are at the top of each other's friends list, meaning they exchange frequent Snaps, they may unlock a "BFF (Best Friends Forever)" Charm. Conversely, the "It's Been Forever" and "It's Been a Minute" Charms may be awarded to friends who are infrequently in contact, to prompt their engagement with one another on Snapchat. Although there are a number of different Charms awarded for various reasons, all of them encourage user interaction, furthering engagement and buy-in to Snap's reward system. This in turn exacerbates

[747] Brad Barbz, *2020 NEW * *How To Increase Snapscore By Up To 1000 Per Minute On IOS And Android - Working 2020*, YouTube (Dec. 4, 2019), https://www.youtube.com/watch?v=Mo_tajuofLA..

social-comparison harms and undermines self-esteem.



605. Snap incorporates other platform features that, like Charms and Trophies, serve no functional purpose, but make Snapchat more appealing and lead to excessive use by children and teens. For example, Snap has developed images called "Stickers" for users to decorate the pictures or videos they post. Snap also offers app-specific emojis and animations that users can apply to their photos or videos.

(iii) Ephemeral Design

606. Time limited features also create pressure to use the platform daily. Users can post stories that will only be available for 24 hours. Snap's Stories feature includes a running view count and list of viewers for each Story, both of which provide users with dopamine-triggering feedback that encourages users to make their Stories visible to everyone in order to increase the view count. The view count, view list, and ephemeral nature of Stories also reinforces the principle of reciprocity and compels users to monitor Stories, so they do not miss out. Many teens feel an obligation to view all their contacts' stories each day before they disappear, or risk hurting the feelings of friends or "missing out."

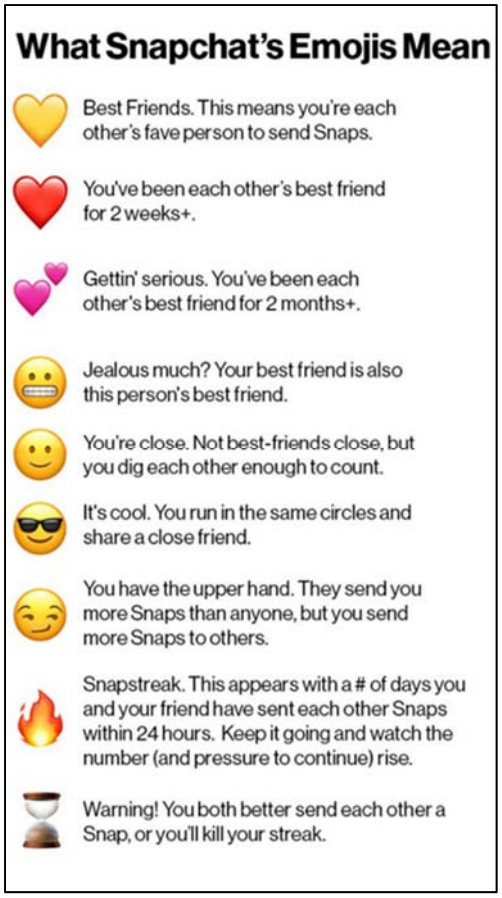
607. Snap designed each of these features to function as rewards for increased engagement, exploit underage users' desire for social validation, and ultimately compel them to use Snapchat excessively. Because many of these rewards and scores are visible to others, these features tap into adolescents' deep-seated need for acceptance. By exploiting this need, Snap increases time spent

engaging with its platform, and thereby its profits.

(iv) Snap Streak

608. The "Snap Streak" is feature that is unique to Snapchat and is "especially [addictive] to teenagers."[748] Snap Streaks provide users with a reward based on the number of consecutive days they communicate with another user. In other words, the longer two users are able to maintain a streak of consecutive Snaps—by sending each other at least one Snap a day—the higher their Snap Streak counter rises. This counter is depicted as a cartoon emoji that appears next to the users conversation on Snapchat that changes the longer the streak is maintained. Each emoji represents a different milestone, for example, the flame emoji along with the number of days the streak has lasted. According to Snap, the flame emoji encourages users to "keep it going and watch the number (and pressure to continue) rise" (see below).

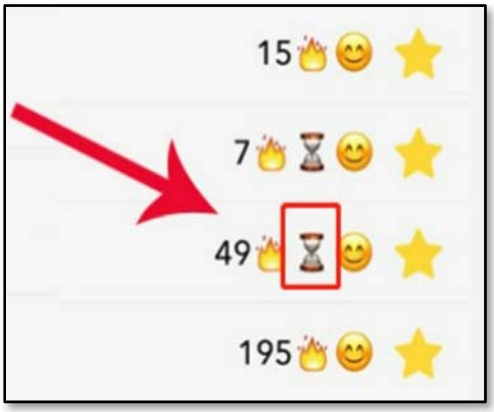
[748] *See* Cathy Becker, *Experts warn parents how Snapchat can hook in teens with streaks*, ABC News (July 27, 2017), https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296; Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you 'addicted'*, Bus. Insider (Feb. 17 2018), https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13; *see generally* Virginia Smart & Tyana Grundig, '*We're designing minds': Industry insider reveals secrets of addictive app trade*, CBC (Nov. 3, 2017), https://www.cbc.ca/news/science/marketplace-phones-1.4384876;ulian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction.


What Snapchat's Emojis Mean
Best Friends. This means you're each other's fave person to send Snaps.
You've been each other's best friend for 2 weeks+.
Gettin' serious. You've been each other's best friend for 2 months+.
Jealous much? Your best friend is also this person's best friend.
You're close. Not best-friends close, but you dig each other enough to count.
It's cool. You run in the same circles and share a close friend.
You have the upper hand. They send you more Snaps than anyone, but you send more Snaps to others.
Snapstreak. This appears with a # of days you and your friend have sent each other Snaps within 24 hours. Keep it going and watch the number (and pressure to continue) rise.
Warning! You both better send each other a Snap, or you'll kill your streak.

snapchat
Delivered 2m ago
Opened 12m ago
96
Delivered 34m ago
47
Opened 22m ago
40
Opened 34m ago
5

snapchat
Delivered 2m ago
Opened 12m ago
96
Delivered 34m ago
47
Opened 22m ago
40
Opened 34m ago
5

609. However, not all of these emojis are "positive." To manufacture deeper addiction to its platform, Snap sends notifications to users with an hourglass emoji when Streaks are about to expire—to create extra urgency, nudge users to keep their Streaks alive, and maintain a system where a user must "check constantly or risk missing out."[749]



610. This feature hijacks teens' craving for social success and connectedness, and causes teen users to feel pressure to use Snapchat daily or suffer social consequences. As some academics and mental health treatment providers have described, streaks "provide a validation for the relationship. . . . Attention to your streaks each day is a way of saying 'we're OK.' . . . The makers built into the app a system so you have to check constantly or risk missing out."[750] "It taps into the primal fear of exclusion, of being out of the tribe and not able to survive."[751] For teens, streaks can become a metric for self-worth and popularity. By design, the user's mental wellbeing becomes connected to performance in Snap's platform.[752]

[749] Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017), https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streake.

[750] *Id.*

[751] *Id.*

611. This phenomenon is reflected in teens use of the platform as well. For example, teenage users have reported that Streaks are "a vital part of using the app and their social lives as a whole."[753] In fact, some children become so obsessed with maintaining their Streaks that they give their friends access to their accounts when they may be away from their phone for a day or more.[754] Snap has even launched a special form on its support website allowing users who lost their streak to petition to get it back.[755]

612. Snap Streaks also contribute to feelings of social pressure and anxiety when users lose or break a Streak. Researchers have found that losing a Streak can cause feelings of betrayal for some users, especially girls, who reported "negative" feelings when losing a Streak with one of their friends.[756]

613. In 2018, Snap conducted its own internal research on Snap Streaks, which found that over a third of users reported it was "extremely" or "very important" to keep a Streak going, and some users reported that the stress level to keep a Streak was "intolerable" or "large." Snap's users reported that Streaks are equally important to Likes on Instagram.[757] In fact, Snap's own competitors acknowledge Snap Streak's effectiveness at maintaining and fostering user engagement. For

[753] Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you 'addicted'*, Bus. Insider (Feb. 17, 2018), https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13.

[754] Caroline Knorr, *How to resist technology addiction*, CNN (Nov. 9, 2017), https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html; Jon Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9, 2017), https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked.

[755] Snapchat Support, Contact Form, https://support.snapchat.com/en-US/i-need-help?start=5695496404336640.

[756] Hristoya et al., "*Why did we lose our snapchat streak?*" Social media gamification and metacommunication. Computers in Human Behavior Reports, 5, 100172 (2022).

[757] SNAP0000008.

example, in an internal document analyzing Snapchat's features, Meta bluntly acknowledged that "[s]treaks are a very important way for teens to stay connected. They are usually with your closest friends and they are addictive."[758]

614. Despite the overwhelming evidence of the addictiveness and harms to youth mental health, Snap continues to provide Snap Streaks to its adolescent users.

(v) Snap Map

615. "Snap Map," is a feature of Snapchat that shows the location of other users on a map. Like other Snapchat features, it drives adolescent engagement. The human desire to belong to an "ingroup" is powerfully connected to self-worth, especially for teens. In a recent study, young respondents reported that they check Snap Map to see where their friends were to avoid exclusion, followed by an increased amount of anxiety. The study found that:

> [A]dolescent users reported feeling "sad," "inadequate," and "isolated" after checking Snap Map, even if they were attempting to avoid these feelings in the first place. [P]articipants who were unsure of their friends' whereabouts or felt excluded (the uncertain situation), were compelled to check Snap Map and reported experiencing higher levels of anxiety and low-self esteem after doing so. . . Participants expressed how immediate access to locational information directly impacted their mood, especially when they saw something that confirmed their doubts.[759]

616. Snap Map also functions as a social metric. A report by 5Rights, a United Kingdom-based children's online safety advocacy group, highlighted the experience of John, a 14-year-old boy, who explained that "[h]aving more connections on Snapchat makes his Snap Map look more crowded, and therefore appear more 'popular,'which he can then show off to people in real life."[760]

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[758] Haugen_00008303 at 8307.

[759] Jenna Sachs, *Psychological Repercussions of Location-Based Social Networks in Today's Youth*, 9 Elon J. of Undergraduate Res. in Comm. 64, 73 (2018), https://eloncdn.blob.core.windows.net/eu3/sites/153/2018/12/06-Sachs.pdf; *See also*, Dunn et al., *"Oh, Snap!": A Mixed-Methods Approach to Analyzing the Dark Side of Snapchat*, The Journal of Social Media in Society, 9(2), 69-104 (2020).

[760] 5Rights Foundation, Pathways: How digital design puts children at risk (July 2021), https://5rightsfoundation.com/uploads/Pathways-how-digital-design-puts-children-at-risk.pdf.

(vi) Push Notifications

617. In addition to Snapchat's in-app reward features, Snap also sends push notifications and emails to encourage addictive engagement and increase use. Notifications are triggered based on information Snap collects from, and about, its users. Snap "pushes" these communications to users excessively and at disruptive times of day. Snap has even designed the format of these notifications to pull users back onto its app by preying on their fear of missing out—never mind the consequences to their health and well-being.

(vii) Impediments to Discontinuing Use

618. Snap has intentionally designed its platforms so child users face significant navigational obstacles and hurdles when trying to delete or deactivate their Snapchat accounts, despite the ease with which a user can create one. For example, when a user elects to delete their account, they cannot do so on demand. The data and the account are preserved for 30 days. In addition, after initiating the deletion process, the user is presented with a black screen depicting a crying emoji and a message that reads, "Your account will be deactivated, which means friends won't be able to contact you on Snapchat. You'll also lose any Chats you've saved and Snaps and Chats you haven't opened."[761]

619. This cumbersome process prioritizes user retention and continues use over the well-being of Snapchat's users.

b. Snap's features feed on content-agnostic user interaction data to create tailor-made experiences which promote compulsive and excessive use.

(i) Snap "Stories" and "Discover" Interface

620. In October 2013, Snap added "Stories," a feature that generates a compilation of its users' designated photos and videos that expire in 24 hours and can be viewed an unlimited number

[761] *See* Snapchat Support, *How do I delete my Snapchat account?*, https://support.snapchat.com/en-US/a/delete-my-account1 (last accessed Dec. 13, 2023).

of times by friends or anyone on Snapchat—if the user sets the visibility setting to "Everyone."[762] Within eight months of launching Stories, users were viewing more Stories per day than Snaps.[763]

621. Snap's Stories feature includes a running view count and list of viewers for each Story, which encourages users to make their Stories visible to "Everyone" in order to increase the view count. The view count, view list, and ephemeral nature of Stories also reinforces the principle of reciprocity and compels users to monitor Stories, so they do not miss out.

622. In 2016, Snap updated the Stories feature to include recommendations based on suggestions made by an algorithm that considers "proximity, time, interestingness, or other such metrics," in conjunction with other user data that Snap has acquired.[764] These recommendations are "endless" and leads to a cycle of endless scrolling that is detrimental to users' mental health. [765] Unsurprisingly, one study of over 2,000 UK residents found 68% of respondents who used Snapchat reported that "the platform prevented them from sleeping."[766]

623. Snap has built upon Stories with the "Discover" feature that displays an endless feed of advertisements to Snapchat's captive audience. Using Discover, users may subscribe to an advertiser's "channel," watch its Stories, and also see what their friends are watching.

624. Both Stories and Discover encourage user engagement with Snapchat and increase the amount of time users spend using the platform by wielding user data as a weapon of addiction at the

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[762] Darrell Etherington, *Snapchat Gets Its Own Timeline With Snapchat Stories, 24-Hour Photo & Video Tales*, TechCrunch (Oct. 3, 2013), https://techcrunch.com/2013/10/03/snapchat-gets-its-own-timeline-with-snapchat-stories-24-hour-photo-video-tales/.

[763] Ellis Hamburger, *Surprise: Snapchat's most popular feature isn't snaps anymore*, The Verge (Jun. 20, 2014), https://www.theverge.com/2014/6/20/5827666/snapchat-stories-bigger-than-snaps-electric-daisy-carnival.

[764] Snapchat, Inc., *Content Collection Navigation and Autoforwarding*, US 20170289234, USPTO (Mar. 29, 2016), https://patents.justia.com/patent/20170289234.

[765] *See, e.g.*, Gino Gugushvili et al., Facebook use intensity and depressive symptoms: a moderated mediation mode of problematic Facebook use, age, neuroticism, and extraversion at 3, BMC Psych. 10, 279 (2022), https://doi.org/10.1186/s40359-022-00990-7..

[766] Frazer Deans, *Curb Your Snapchat Addiction*, https://www.wholesome.design/advent-2018/2-curb-your-snapchat-addiction/.

expense of users' mental health and well-being.

(ii) "Spotlight"

625. Snapchat's "Spotlight" feature pushes to users "an endless feed" that Snap curates from its 300 million daily Snapchat users.[767] Spotlight functions and appears nearly identical to TikTok, with similar addictive qualities and harms. Snapchat's Spotlight feature also allows users to make videos that anyone can view, and Snap pays users whose Spotlight videos go viral, thus serving as yet another reward system that encourages user engagement. After Snap introduced Spotlight, user time spent on the platform increased by over 200%.[768]

626. In February 2022, Snap CEO Evan Spiegel told investors that users are spending more time on Spotlight than almost any other aspect of Snapchat. A year prior, Snap announced "Spotlight Challenges," which provided users with cash prizes for creating Spotlight videos with specific lenses, sounds, or topics, further integrating the user into the Snap ecosystem. Snap claims it paid out more than $250 million in cash prizes to Spotlight Challenge participants in 2021 alone.[769]

4. Snap designed Snapchat with features that harm children directly or expose children to harm.

a. Disappearing "Snaps" and "My Eyes Only" thwart parental control and encourage destructive behavior among Snap's teen users.

627. As discussed above, Snapchat's allows users to send and receive ephemeral, or "disappearing," audiovisual messages. Prior to sending a Snap, users can designate the period of time—typically no more than a few seconds—that the recipient will be allowed to view the Snap. According to Snapchat, once the allotted time expires, the Snap disappears forever.

[767] Salvador Rodriguez, *Snap is launching a competitor to TikTok and Instagram Reels*, CNBC (Nov. 23, 2020), https://www.cnbc.com/2020/11/23/snap-launching-a-competitor-to-tiktok-and-instagram-reels.html.

[768] *See Snap Q4 Earnings Beat Estimates, User Growth Aids Top Line, Zacks Equity Research* (Feb. 5, 2021), https://finance.yahoo.com/news/snap-q4-earnings-beat-estimates-153003950.html..

[769] Mia Sato, *Snapchat will put ads within stories and share the money with creators* (Feb. 14, 2022), https://www.theverge.com/2022/2/14/22927656/snapchat-snap-stars-stories-ads.

628. Snapchat's limited display time reduces teenagers' communication apprehension and encourages users to send photos depicting themselves, or their friends, engaging in risky behaviors. Sexting—a practice involving sending or receiving sexually explicit audiovisual content via Snaps or other text messaging mediums—is a prime example. A 2016 survey of pre-teens and teens ages 12-17 found that "dick pics" were among some of the unwanted content that users—predominantly females—received while using the app.[770]

629. However, despite Snap's representations, Snaps do not automatically disappear. For example, recipients can use their mobile phones or tablets to screenshot or record any Snaps they receive. Yet, despite these dangers, Snap does not warn users, including children and teenagers, that Snaps may not disappear in all instances.

630. In addition, Snapchat's parental controls are ill-equipped to mitigate the risks posed by the possibility of recipients capturing the messages or photos they receive. For example, even with parental controls activated, parents are unable to view Snaps their children send or receive and therefore cannot adequately protect and/or prevent their children from engaging in dangerous behavior on Snapchat.

631. "My Eyes Only" is yet another dangerous feature of Snapchat that enables and encourages teenage users to hide certain Snaps or conversations from their parents in a special tab that requires a passcode.

632. When Snap designed "My Eyes Only" it knew or should have known that the feature would likely be used to store potentially illegal and injurious photos and images like sexts and CSAM. This dangerous platform feature unreasonably increases the risk that Snapchat's adolescent users, many under age 13, will be targeted and sexually exploited and/or trafficked by child predators.

633. Pictures and videos stored in My Eyes Only self-destruct if a user attempts to access the hidden folder with the wrong code. My Eyes Only has no practical purpose or use other than to

[770] Kofoed et al., (2016) *A snap of intimacy: Photo-sharing practices among young people on social media*, First Monday 21(11), https://doi.org/10.5210/fm.v21i11.6905.

hide potentially dangerous activity from parents and/or third parties, such as law enforcement, seeking to access the content stored in an individuals Snapchat account.

634. Moreover, while this information and evidence should be in Snap's possession and control, it has designed this feature in a way that causes the permanent loss of relevant, material, and incriminating evidence. According to Snap, it is impossible to recover data stored in "My Eyes Only" if the passcode has been lost or forgotten.

b. Snapchat's "Quick Add" feature endangers children.

635. Snapchat's "Quick Add" feature recommends new, sometimes random friends, using an algorithm that considers a user's friends, interests, and location. Quick Add encourages users to expand their friends list to increase their Snapscore by interacting with an ever-expanding group of friends, which—in addition to expanding their time online—can result in exposure to dangerous strangers. Of particular concern, until 2022, Quick Add's suggestions included profiles for users Snap knew to be between the ages of 13-17. As a result, Quick Add could, and in fact did, recommend that a minor "add" an adult user who they did not know personally.

636. In 2022, Snap revised the Quick Add feature to limit the friend suggestions promoted to minors. For example, Quick Add would only suggest friends who shared a certain number of common friends with the minor users between 13-17 years old. However, Snap has not disclosed how many common connections prospective "friends" must be share to satisfy this safety feature. Further, this modification to the Quick Add feature still does not prohibit the connection of minors with adult strangers.

637. Despite these dangers, Snap continues to utilize Quick Add because it increases the odds that users will add friends, send more Snaps, and spend more time using Snapchat.

c. Snapchat's "Snap Map" feature endangers children.

638. Snapchat also contains a feature called "Snap Map" that allows users to share their geolocation with their followers (and the public) on an activity-level-based, color-coded heatmap. At all relevant times, this feature has been available to all users, including minors.

639. Snap Map is a dangerous feature for underage users because it provides strangers with

their locations, exposing them to potential harm.

d. Snapchat's Lenses and Filters features promote negative appearance comparison.

640. Snapchat also incorporates numerous custom-designed lenses and filters, which allow users to edit their Snaps with augmented-reality special effects and sounds. Many these lenses and filters change users' appearance and faces, creating unrealistic, idealized versions of themselves that cause profound body dysmorphia in children, especially teenage girls.

641. Examples of these features include (1) the Smoothing Filter, which blurs facial imperfections and evens out skin tone; (2) Bold Makeup, which adds makeup over the user's face, blurs imperfections, and evens out skin tone; (3) Sunkissed and Cute Freckles, which adds freckles over the nose and cheeks, blurs imperfections, evens out skin tone, and adjusts skin color; (3) Face and Body Mellow Glow, which smooths the face and body and adjusts skin color; and (4) Fluffy Eyelashes, which alters the shape of the user's face by lifting their eyes and adding more pronounced cheek bones. The common theme among all of these filters is that they remove the subject's perceived blemishes to create the perfect "selfie."

642. A 2017 study found that these features made Snapchat one of the worst social media platforms for the mental health of children and adolescents, behind only Instagram.[771] In recent

[771] Kara Fox, *Instagram worst social media app for young people's mental health*, CNN (May 19, 2017), https://www.cnn.com/2017/05/19/health/instagram-worst-social-network-app-young-people-mental-health/index.html.

years, plastic surgeons have reported an increase in requests for alterations that correspond to Snapchat's filters. This has led researchers to coin the term "Snapchat Dysmorphia," in which the effect of Snapchat's filters triggers body dysmorphic disorder by causing a "sense of unattainable perfection" that leads to self-alienation and damages a person's perception of their body and their self-esteem.[772] One social psychologist summarized the effect as "the pressure to present a certain filtered image on social media [which] can certainly play into [depression and anxiety] for younger people who are just developing their identities."[773]

643. Snap also created and promoted "smart filters" that allowed users to stamp the date/time, temperature, battery life, altitude, and speed on their Snaps.[774] These filters utilize sensor data on users' devices to provide the desired filter stamp.

644. A particularly dangerous smart filter was the "Speed Filter," which, from 2013 to 2021 allowed users to record their real-life speed and overlay that speed onto Snaps. Shortly after the Speed Filter was introduced, it became a viral game for users—particularly teenage users—to capture photos and videos of themselves driving at 100 miles-per-hour or more. Tragically, the quest to capture a 100 mile-per-hour Snap caused a number of fatal vehicle accidents involving teens and young adults.[775]

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[772] Chen et al., *Association Between Social Media and Photograph Editing Use, Self-esteem, and Cosmetic Surgery Acceptance*, JAMA Facial Plastic Surgery, 2019; *See also* Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989..

[773] Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty through filters*, ABC News (May 1, 2021), https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989.

[774] Karissa Bell, *Snapchat adds an altitude filter to show how high you are*, (Aug.19, 2016), https://mashable.com/article/snapchat-altitude-filter-how-to.

[775] *See Did Snapchat play role in deaths of 3 young women?*, ABC6 Action News (Feb. 16, 2016), https://6abc.com/action-news-investigation-snapchat-fatal-car-crash-philadelphia/1196846/; Manpreet Darroch, *Snapchat and driving . . . you could be sending your last snap (Apr.25, 2016),* http://www.youthforroadsafety.org/news-blog/news-blog-item/t/snapchat-and-driving-hellip-you-could-be-sending-your-last-snap; *The Most Dangerous App on Your Phone,*

645. Snap knew, or should have known, its speed filter created an unreasonable risk of harm to its users and the public. Yet, despite public outcry to disable the filter, Snap refused to remove the filter from its application until 2021.[776]

646. By including features like lenses, cartoonish filters, and stamps to attract ever-increasing numbers of children to use and engage with its platform, Snap has knowingly created a platform that leads to excessive use by children and teens causing them to suffer harm and causing harm to the Plaintiffs.

5. Snap implemented ineffective and misleading parental controls, further endangering children.

647. Despite having a userbase primarily comprised of children under the age of 18, Snapchat had no parental controls between its launch in 2011 until mid-2022 when, in response to growing public outcry about the dangers of its platform, Snap introduced the "Family Center" to Snapchat.

648. However, the features and processes offered through the Family Center are woefully inadequate to protect underage users. For example, although the Family Center allows a parent or guardian to link their Snapchat account to their child's account, they can only see who their child is communicating with. However, the substance of these communications remains hidden and still disappears after the allotted time. In addition, Family Center does not allow a parent or guardian to block minors from sending private messages, control their child's use or engagement with many of Snapchat's platform features, control their child's use of Snapchat's geolocation feature, or control who their child may add to their friend list. Finally, the Family Center fails to help a parent monitor their child's account parents when the child has secretly created a Snapchat account without the parents' knowledge in the first place.

DistractedDriverAccidents.com, https://distracteddriveraccidents.com/the-most-dangerous-app-on-your-phone/..

[776] Bobby Allyn, *Snapchat Ends 'Speed Filter' That Critics Say Encouraged Reckless Driving*, NPR (June 17, 2021), https://www.npr.org/2021/06/17/1007385955/snapchat-ends-speed-filter-that-critics-say-encouraged-reckless-driving.

649. Failure to implement effective parental controls augments he addictive design features and the harms it inflicts on is underage users.

6. Snap failed to adequately warn Plaintiffs and the public about the harms its platform causes or provide instructions regarding safe use.

650. Snap has failed to adequately warn the public, including Plaintiffs and the children and parents within their schools and communities, about the physical and mental health risks posed by its platforms, and the increased resources that Plaintiffs would need expend to address the youth mental health crisis it caused. The risks to minors include a plethora of mental health disorders, such as compulsive use, addiction, eating disorders, anxiety, depression, insomnia, exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-harm, and death. The risks to Plaintiffs include having to increase and divert human and financial resources to address the mental health and disciplinary issues of students and minors in their communities as Plaintiffs seek to fulfill their mission (and obligation) to provide America's youth with educational, counselling, health, and other social and disciplinary services and public facilities.

651. Snap knew or should have known its design choices and conduct would have a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities and would lead to Plaintiffs' increased expenditures and diverted resources and should have warned of such.

652. Snap targets adolescent users via advertising and marketing materials distributed throughout digital and traditional media that fail to provide sufficient warnings to potential adolescent consumers or their parents, teachers, or caregivers, of the physical and mental risks associated with using the platform.

653. Snap further fails to warn students and schools and local governments that utilize the platform about the possibility of the above harms during the platform registration process by displaying a warning label, banner, or conspicuous messaging to inform adolescent users of the known risks and potential physical and mental harms associated with usage of its platform. Instead, Snap allows adolescent users to easily create an account (or multiple accounts) and fully access the platform.

654. Nor does Snap adequately inform adolescent users that their data will be tracked, used to help build a unique algorithmic profile, and potentially sold to Snap's advertising clients, who will in turn use the data to target and profile the user.

655. Alarmingly, Snap also does not warn adolescent users before facilitating adult connections and interactions that adult predators use its platform. It also fails to instruct adolescent users on ways to avoid unknown adults on Snap.

656. Snap also fails to warn adolescent users who exhibit problematic signs of addiction or are habitually and compulsively accessing the app. Instead, Snap utilizes push notifications to encourage engagement with Snapchat.

657. In addition, despite proactively providing adolescent users with countless filtering and editing tools, Snap does not warn its adolescent users regarding the mental health harms associated with those heavily filtered images.

658. Snapchat also offers minors Retouch and Enhance features that allow minors to change their appearance without letting other users know such a change has been made and without demarcation of the photos and/or videos as retouched or enhanced.

659. Snap also failed to warn Plaintiffs about the dangerous, addictive nature of its platform, the resulting harms that occur from use of its platforms, and that Plaintiffs would be required to divert and expend additional human and financial resources to provide support to harmed minors through education, counseling, mental health, and other social, and disciplinary services required to be provided by Plaintiffs to address the youth mental health crisis.

660. Snap's failure to properly warn and instruct adolescent users and their parents as well as its failure to warn Plaintiffs has proximately caused significant harm to Plaintiffs, who have expended and continue to expend, significant resources addressing the impact of Snap's conduct on Plaintiffs' operations, including expending additional resources to provide support to impacted children and families.

7. <u>Snap facilitates the spread of CSAM and child exploitation.</u>

661. Despite being marketed to and designed for children, Snapchat includes a number of

features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children. For example, by failing to age-restrict its Discover feature, Snapchat's algorithm has recommended inappropriate sexual content to adolescent users. By promoting the connection between minors and adults, it is facilitating child exploitation and predation. In addition, by failing to implement parental controls that give parents true control over their children's activity until August 2022, Snap allows harmful interactions with predators to continue unnoticed.

662. Snap's design features and conduct exacerbating the spread of CSAM causes Plaintiffs to be required to divert and increase resources and expenditures to provide education, counselling, disciplinary and other social services to harmed minors.

663. Like the other Defendants, as a direct consequence of the child exploitation that occurs on its platform, Snapchat is tainted by illegal material that promotes and facilitates the continued sexual exploitation of minors. Snap receives value in the form of increased user activity for the dissemination of CSAM on its platform.

664. Furthermore, Snapchat's disappearing-content design, while appealing to minors, makes it more difficult for parents to monitor their children's social-media activity. This feature also contributes to a sense of impunity for many users, encouraging and fomenting exploitation and predatory behavior, which has been observed in multiple empirical studies.[777] According to these studies, Snapchat users believe their conduct is hidden and accordingly feel empowered to engage in criminal behavior through the platform without fear of getting caught.

665. These feelings are promoted by design. Snap intends for the platform's disappearing messaging to entice users to share highly personal photos and information that many users would

[777] *Snapchat by the Numbers: Stats, Demographics & Fun Facts*, Omnicore (Mar. 2, 2022), https://www.omnicoreagency.com/snapchat-statistics/.

otherwise feel uncomfortable sharing on "higher-stake" apps.[778] In short, this design choice not only allows, but encourages minors to share harmful, illegal, and sometimes sexually explicit images.

666. In addition, by allowing users to voice or video call one another in the app, Snapchat enables sexual predators to call and video chat with minor users in private, with virtually no evidence of the contents of those communications.[779] This problem is exacerbated by other features such as Quick Add and Snap Map, which predators use to identify children willing to add and speak with a stranger, and then prey on the child's vulnerabilities.

667. Furthermore, the introduction of "Snapcash," a peer-to-peer mobile payment service. Snapcash provided a way for users to pay each other for "private" content with little to no oversight.[780] While it was available on the platform, Snapcash facilitated some users efforts to send, receive, create, publish, save, accept, or otherwise participate in the distribution of CSAM or other types of sexual exploitation, such as extorting money from adolescent users by threatening to disseminate CSAM to other users, the child's parents, or law enforcement.

668. Snapcash was abruptly removed from Snapchat in 2018 after Snap discovered that some users were sending sexually explicit photos and using Snapcash for payment.[781]Despite the presence of this extremely harmful, and illegal content, on its platform, Snapchat users cannot specifically report CSAM that is sent via direct messaging, including from another user's camera roll. Collectively, these platform features promulgate communication and conduct with a false sense

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[778] *See* Evelyn Lopez et al., *The Gratifications of Ephemeral Marketing Content, the Use of Snapchat by the Millenial Generation and Their Impact on Purchase Motivation*, Global Bus. Rev. (2021), https://journals.sagepub.com/doi/pdf/10.1177/09721509211005676.

[779] Snapchat Support, *How to Start a Video Chat on Snapchat*, https://support.snapchat.com/en-GB/a/video-chat#:~:text=You%20can%20Video%20Chat%20with,into%20a%20full%2Dscreen%20Chat.

[780] Kurt Wagner, *Snapchat to Let You Send Money to Friends, Thanks to Square*, Vox, https://www.vox.com/2014/11/17/11632930/snapchat-to-let-you-send-money-to-friends-thanks-to-square.

[781] Christian Hargrave, *Snapcash Goes Away After Excessive Feature Misuse*. App Developer Magazine (July 25, 2018), https://appdevelopermagazine.com/snapcash-goes-away-after-excessive-feature-misuse/.

of intimacy between users and encourage predators to use Snapchat to target children for grooming, sexual exploitation, sextortion, and CSAM.

669. As a result, Snapchat is one of the go-to platforms for sexual predators.[782]

8. Snap possesses the technology to detect, identify, and prevent the spread of CSAM on its platform.

670. In November 2019, a bipartisan group of Senators sent a letter to leading tech companies, including Snapchat. The letter sought answers about Snap's knowledge about online sexual grooming of children on its platform and Snap's CSAM detection technologies.[783]

671. In response, Snap stated that it uses "technology to identify *known* illegal images and videos of CSAM and report them to NCMEC," but it did not address how Snapchat's design contributes to the ongoing proliferation of CSAM materials and the sexual exploitation of its adolescent users. Nor did it address how it could utilize the data and information it collects about Snapchat's users to detect, report, and take action to prevent instances of sexual grooming, sextortion, and CSAM distribution.

672. In addition, despite receiving numerous reports regarding how its platform's features contribute to child exploitation, Snap has elected to keep many of them in place.[784]

673. For example, in 2020, ParentsTogether, a national parent group, delivered a petition from 100,000 parents to Snap demanding that the company do more to "protect children from sexual abuse and exploitation" on Snapchat.[785] The petition listed numerous examples of widespread online

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[782] *See, e.g.*, Rebecca Woods, *What Are The Dangers Of Snapchat To Avoid?*, PhoneSpector (June 16, 2021), https://phonespector.com/blog/what-are-the-dangers-of-snapchat-to-avoid/.

[783] *Letter to Sundar Pichai and 36 other Tech Companies by Senate Committee* (Nov. 18, 2019), https://www.blumenthal.senate.gov/imo/media/doc/11.18.19%20-%20Google%20-%20CSAM.pdf.

[784] *See*, e.g., Zak Doffman, *Snapchat Has Become A 'Haven For Child Abuse' With its "Self-Destructing Messages'*, Forbes (May 26, 2019), https://www.forbes.com/sites/zakdoffman/2019/05/26/snapchats-self-destructing-messages-have-created-a-haven-for-child-abuse/?sh=411b8e1d399a.

[785] *Snapchat: Prevent Pedophiles from Sharing Abuse Videos*, https://parents-together.org/snapchat-petition.

sexual grooming of children, including a high school coach in New Mexico who used Snapchat to extort sexual videos from several girls as young as fourteen; a Cleveland man who posed as a therapist and blackmailed a thirteen-year-old girl into sending him sexual videos and photos; and a Virginia man who was arrested for running a sextortion ring on Snapchat, coercing children into sending sexually explicit material.[786]

674. Notwithstanding these glaring flaws, Snap advertises and promotes its platform as safe and fun. Snap's Vice President of Global Public Policy, Jennifer Stout, stated in written testimony to a Senate Subcommittee that Snap takes "into account the unique sensitivities and considerations of minors when we design products"[787] when, in fact, Snap intentionally designed its platform to promote compulsive and excessive use and help underage users conceal information from their parents. Stout also claimed that Snap makes it harder for strangers to find minors when, in fact, Snapchat's "Quick Add" feature is responsible for introducing minors to complete strangers, and its "Snap Map" feature has enabled threats, exploitation, and location of minors by complete strangers.

675. Likewise, Snap's Head of Global Platform Safety, Jacqueline Beauchere, represented to the public that "Snapchat is designed for communications between and among real friends; it doesn't facilitate connections with unfamiliar people like some social media platforms."[788] But again, this is not true and/or historically was not the case.

676. Snap knows or should have known, that its platforms facilitate and encourage the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that exploit children and violate child pornography laws. Snap further knows, or should have known, that its platform facilitates the production, possession, distribution, receipt, transportation, and dissemination of materials that depict obscene visual representations of the

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[786] *Id.*

[787] Snap's Senate Congressional Testimony - Our Approach to Safety, Privacy and Wellbeing, https://values.snap.com/news/senate-congressional-testimony-our-approach-to-safety-privacy-and-wellbeing.

[788] *Snap's Meet Our Head of Global Platform Safety*, https://values.snap.com/news/meet-our-head-of-global-platform-safety.

sexual abuse of children.

677. Upon information and belief, Snap has developed, or is developing, artificial intelligence technology that detects adult users of Snapchat who send sexually explicit content to children and receive sexually explicit images from children. This technology furnishes Snap with actual knowledge that a significant number of minor users of Snapchat are solicited to send, and do send, sexually explicit photos and videos of themselves to adult users in violation of 18 U.S.C. § 1591(a)(1)-(2).[789]

D. FACTUAL ALLEGATIONS AS TO BYTEDANCE

1. Background and overview of TikTok.

678. In 2012, Beijing-based technologist Zhang Yiming paired up with American venture capitalist Matt Huang to launch ByteDance, and its first platform Jinri Toutiao ("Today's Headlines"), which utilized AI to gather and present world news to users on a single feed.

679. Following the success of its first platform, ByteDance created Douyin in 2016, a music-based app loosely modeled on the popular app Musical.ly. Musical.ly was a hit in the U.S., as American teens gravitated to the platform, which allowed users, including minor users, to create 15-second videos of themselves lip-syncing, dancing, etc. to popular songs and movie scenes, and then post them to a scrollable feed for other users to see.

680. In 2017, ByteDance launched TikTok, a version of Douyin for the non-Chinese market outside of China, and acquired Musical.ly—which, by then, boasted a user base of almost 60 million monthly active users—for $1 billion. Nine months later, ByteDance merged its newly acquired app into its existing platform, and a global version of TikTok was born.

681. ByteDance's design of TikTok predecessor Douyin is profoundly different than TikTok. Douyin limits young people 14-and-under to just 40 minutes per day.[790] TikTok, however,

[789] *See* SNAP0000001-SNAP0000002.

[790] Sapna Maheshwari, *Young TikTok Users Quickly Encounter Problematic Posts, Researchers Say*, N.Y. Times (Dec. 14, 2022), https://www.nytimes.com/2022/12/14/business/tiktok-safety-teens-eating-disorders-self-harm.html.

is built on an algorithm designed to encourage addictive and compulsive use and, until recently, did not even have optional usage limits for minor users.[791]

682. As TikTok's own research shows, "[u]sers often spend longer on the app than they want to in a session," and "users' biggest usage deterrent is that they think the platform is addictive."[792]

683. Since its launch, TikTok has grown exponentially. In late 2021, its owner and creator ByteDance publicly stated that TikTok had 1 billion active global users, up from 55 million in early 2018 and 700 million in mid-2020.[793] TikTok CEO Shou Chew recently testified that the app currently has over 150 million monthly active users in the United States.[794]

684. Children comprise a large portion of TikTok's U.S. user base. In July 2020, TikTok reported that more than one-third of its 49 million daily users in the United States were 14 or younger.[795] Internal documents reveal that TikTok's success among U.S. users under the age of 18 has been incredibly successful—reaching a market penetration of 95%.[796] A 2022 Pew Research Center survey reported that 67% of American teenagers (age 13-17) use TikTok, with most American teenagers (58%) using the platform daily. Among teenage TikTok users, a quarter say

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[791] *See* TIKTOK3047MDL-001-000060470 ("Problem Statement: Users often spend longer on the app than they want to in a session." … "We have learned from Project Who that our users' biggest usage deterrent is that they think the platform is addictive." … Compulsive usage interferes with essential personal responsibilities like sufficient sleep, work/school responsibilities, and connecting with loved ones (Europe PMC)").

[792] TIKTOK3047MDL-001-000060470.

[793] Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27, 2021), https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html.

[793] Shou Chew, Written Statement of Testimony Before the U.S. House Committee on Energy and Commerce, March 23, 2023, https://d1dth6e84htgma.cloudfront.net/Written_Testimony_of_Shou_Chew_c07504eccf_084e8683f3.pdf?updated_at=2023-03-22T03:10:22.760Z.

[794] *Id.*

[795] Raymond Zhong & Sheera Frenkel, *A Third of TikTok's U.S. Users May Be 14 or Under, Raising Safety Questions*, N.Y. Times (Aug. 14, 2020),

[796] UT AG Compl. at 10, para. 26.

they use the platform almost constantly.[797] In another recent report, more than 13% of young users declared they "wouldn't want to live without" TikTok.[798]

685. Internal documents reveal that U.S. children average nearly two hours a day on the TikTok platform, with many spending more than four hours a day on TikTok alone. Of the nearly seventy million youth aged 13-17 who use TikTok daily, almost thirty million of them are spending close to two or more hours on the TikTok platform every day and seventeen million are spending nearly three or more hours on the TikTok platform every day. To put that into perspective, almost a quarter of all children using the TikTok platform are spending the equivalent of half of their school day on the platform every day.[799]

686. TikTok's capture of the youth market has been the result of a carefully executed campaign. Early on, Alex Zhu, one of TikTok's creators, recognized that "[t]eenagers in the U.S. [were] a golden audience" for this emerging social media platform.[800] To cash in on this gold, ByteDance implemented a series of platform features designed to attract and addict young users. As Zhu explained in 2019: "[e]ven if you have tens of millions of users, you have to keep them always engaged."[801] This engagement has come at the cost of young users' health and with significant impact to the school districts, counties, and municipalities charged with educating, serving, and protecting those youth.

2. TikTok's operations are controlled by ByteDance.

687. ByteDance Ltd. exclusively controls and operates the TikTok platform. In his recent

[797] Emily Vogels *et al*., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/.

[798] Victoria Rideout *et al*., *Common Sense Census: Media use by tweens and teens, 2021* at 31, Common Sense Media (2022), www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

[799] UT AG Compl. at 17, para. 49.

[800] Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y. Times (Aug. 9, 2016).

[801] Biz Carson, *How A Failed Education Startup Turned into Musical.ly, The Most Popular App You've Probably Never Heard Of*, Bus. Insider (May 28, 2016) (emphasis added).

testimony before the House Energy and Commerce Committee, TikTok CEO Shou Chew admitted that he reports directly to ByteDance Ltd. CEO Liang Rubo. ByteDance Ltd. admits that its personnel outside the United States can access information from American TikTok users including public videos and comments. On information and belief, ByteDance Ltd. also has access to United States TikTok users' private information.

688. Despite efforts to portray TikTok as separate from Douyin (the version of TikTok distributed in China), the two companies share many overlapping personnel and technologies, as the recent report "TikTok, ByteDance and Their Ties to the Chinese Communist Party," produced by the Australian Senate Select Committee on Foreign Interference Through Social Media, makes clear. TikTok's engineering manager works on both TikTok and Douyin, and TikTok Inc.'s development processes are closely intertwined with Douyin's processes. TikTok Inc.'s employees and data systems are also deeply interwoven into Byte Dance Ltd.'s ecosystem.

689. Indeed, TikTok's algorithms were created by ByteDance Ltd. and contain some of the same underlying basic technology as Douyin.[802]

690. TikTok's algorithms still belong to ByteDance Ltd., which declined to sell the technology to a U.S. company.[803]

691. ByteDance Ltd. also plays a role in hiring key personnel at TikTok.[804]

692. High-level ByteDance Ltd. employees served in dual roles for both ByteDance Ltd. and TikTok Inc. at least as recently as 2021. These employees include (1) Vanessa Pappas, the Head

[802] Letter from Shou Zi Chew, CEO, TikTok to the Hon. Marsha Blackburn, Roger Wicker, John Thune, Roy Blunt, Ted Cruz, Jerry Moran, Shelley Moore Capito, Cynthia Lummis, and Steve Daines, U.S. Senate (June 30, 2022) at 4, https://bit.ly/3hqccLL ("June 2022 Letter to U.S. Senators").

[803] Z. Xin & T. Qu, TikTok's algorithm not for sale, ByteDance tells US, S. CHINA MORNING Post (Sept. 13, 2020), https://bit.ly/3 UjeQHQ.

[804] Letter from Shou Zi Chew, CEO, TikTok to the Hon. Marsha Blackburn, Roger Wicker, John Thune, Roy Blunt, Ted Cruz, Jerry Moran, Shelley Moore Capito, Cynthia Lummis, and Steve Daines, U.S. Senate (June 30, 2022) at 5, https://bit.ly/3hqccLL ("June 2022 Letter to U.S. Senators").

of TikTok Inc. and interim head of the global TikTok business for ByteDance Ltd.; (2) Roland Cloutier, former Global Chief Security Officer, who provided cyber risk and data security support for both TikTok Inc. and ByteDance Ltd.; and (3) Shou Zi Chew, TikTok's CEO and CFO of ByteDance Ltd., who reports to the CEO of ByteDance.[805]

693. In addition to showing that ByteDance Ltd. is highly integrated with TikTok Inc., the Australian Senate Report notes that ByteDance Ltd. is heavily influenced by the Chinese Communist Party. The report notes ByteDance Ltd.'s Editor in Chief, Zhang Fuping, is a Chinese Communist Party Secretary. The Australian Senate report concludes that ByteDance Ltd. is a hybrid state-private entity at least partially controlled by the Chinese government.

694. ByteDance Ltd. designed and operates the Lark communication platform for use by all its subsidiaries, including Bytedance, Inc. and TikTok, Inc. All Bytedance, Ltd., Bytedance, Inc. and TikTok, Inc. personnel have a Lark account and accompanying profile. All oral, video, and written communications between Bytedance Ltd., ByteDance, Inc., and TikTok, Inc. employees are either conducted face-to-face or through Lark. All written communications or documents exchanged through Lark are stored on Lark's database. Lark also provides real-time translation subtitling for oral and video communications between English-speaking and Chinese-speaking personnel. Transcripts of these translated oral and video conversations are stored on Lark's database.

695. Other public reports demonstrate that multiple former TikTok employees have reported that ByteDance Ltd. exercises significant control over TikTok's decision making and operations. Twelve former TikTok and ByteDance Ltd. Employees and executives reported that CEO Shou Zi Chew has "limited" decision making power.[806] Instead, major decisions related to TikTok are made by ByteDance Ltd. founder Zhang Yiming and other ByteDance Ltd. officials in

[805] *See* TikTok Names CEO and COO, TikToK (Apr. 30, 2021), https://bit.ly/3OVyvWh; R. Mac & C. Che, TikTok's CEO Navigates the Limits of His Power, N.Y. TIMES (Sept. 16, 2020), https://nyti.ms/3OT6grk.

[806] Mac & C. Che, TikTok's CEO Navigates the Limits of His Power, N.Y. TIMES (Sept. 16, 2020), https://nyti.ms/3OT6grk.

China.[807]

696. Senior TikTok employees hired to head departments have left the company after learning they would not be able to significantly influence decision making.[808]

697. ByteDance Ltd.s own internal audit team prepared a risk assessment in late 2021 and found that numerous senior employees felt "that themselves and their teams are just 'figureheads' or 'powerless ombudsmen' who are 'functionally subjection to the control of [China]-based teams.'"[809]

698. As recently as 2022, employees that work on product, engineering, and strategy at TikTok said they reported directly to ByteDance leadership in China, bypassing TikTok's executive suite.[810] Similarly, former TikTok employees have stated that "nearly 100% of TikTok's development is led by Chinese ByteDance employees."[811]

699. Other employees have described ByteDance Ltd. as being "heavily involved" in decision making and operations at TikTok, with "blurry" boundaries between the two companies.[812] According to employees, these blurred lines included U.S.-based employees working during Chinese business hours to answer their ByteDance Ltd. counterparts' questions.[813] Further, one

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[807] *Id.*

[808] Emily Baker-White, TikTok is Bleeding U.S. Execs Because China is Still Calling the Shots, Forbes (Sept. 21, 2022), https://bit.ly/3XTSnNF.

[809] Emily Baker-White, *A China-Based ByteDance Team Investigated TikTok's Global Security Chief, Who Oversaw U.S. Data Concerns*, Forbes (Oct. 25, 2022), https://www.forbes.com/sites/emilybaker-white/2022/10/25/bytedance-tiktok-investigation-global-chief-security-officer-roland-cloutier/?sh=3dda7fa26640.

[810] Emily Baker-White, *TikTok is Bleeding U.S. Execs Because China is Still Calling the Shots*, Forbes (Sept. 21, 2022), https://bit.ly/3XTSnNF.

[811] Salvador Rodriguez, *TikTok Insiders Say Social Media Company is Tightly Controlled by Chinese Parent Bytedance*, CNBC (Jun. 25, 2021), https://www.cnbc.com/2021/06/25/tiktok-insiders-say-chinese-parent-bytedance-in-control.html.

[812] *Id.*

[813] *Id.*

TikTok employee stated ByteDance Ltd. employees could access U.S. user data.[814]

700. Statements from other TikTok employees suggest the lines between the TikTok and ByteDance Ltd. are almost nonexistent, with ByteDance Ltd. being the "central hub for pretty much everything … . Beijing managers sign off on major decisions involving U.S. operations, including from the teams responsible for protecting Americans' data and deciding which videos should be removed."[815] Further, TikTok employees stated ByteDance Ltd. officials "lead TikTok's design and engineering teams and oversee the software that U.S. employees use to chat with colleagues and manage their work. They're even the final decision-makers on human resources matters, such as whether an American employee can work remotely."[816] ByteDance continues to make decisions "both large and small" about all aspects of TikTok. It directs TikTok's budget, operates TikTok's internal document storage platform, and handles media criticism directed at TikTok, and enters into contracts on behalf of TikTok to provide key services for the TikTok platform.[817] In addition, the source code that continues to make up TikTok's recommendation algorithm was originally written by ByteDance employees in China.[818]

701. One former TikTok employee reported to *Forbes* that their paycheck listed ByteDance as the check's drawer, not TikTok.[819]And another employee reported their contract listed TikTok as their employer, but their tax returns listed ByteDance.[820]

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[814] *Id.*

[815] Drew Harwell and Elizabeth Dwoskin, *As Washington Wavers on TikTok, Beijing Exerts Control*, Washington Post (Oct. 30, 2022), https://www.washingtonpost.com/technology/interactive/2022/bytedance-tiktok-privacy-china/.

[816] *Id.*

[817] UT AG Compl. at 53, paras.145-147.

[818] *Id.* at 53-54, para.148.

[819] Emily Baker-White, *TikTok is Bleeding U.S. Execs Because China is Still Calling the Shots*, Forbes (Sept. 21, 2022), https://bit.ly/3XTSnNF.

[820] *Id.*

3. TikTok has aggressively marketed by Defendants to children, driving revenue for ByteDance.

702. ByteDance has designed and aggressively marketed TikTok to attract and profit from young users in the U.S.

703. Like the other Defendants' platforms, TikTok sells itself as a social media company, but its actual source of revenue is ad sales, which have boomed. TikTok was projected to receive $11 billion in advertising revenue in 2022, over half of which is expected to come from the United States.[821]

704. Central to these revenues is TikTok's ability to attract young users, a demographic that ByteDance has aggressively pursued the product's launch.

705. The initial iteration of TikTok allowed users to lip sync pop music by celebrities who appealed primarily to teens and tweens (e.g., Selena Gomez and Ariana Grande). It labeled folders with names attractive to youth (e.g., "Disney" and "school"); and included in those folders songs such as "Can You Feel the Love Tonight" from the movie "The Lion King," "You've Got a Friend in Me" from the movie "Toy Story," and other renditions covering school-related subjects or school-themed television shows and movies.[822]

706. Even TikTok's sign-up process demonstrates that young users are what ByteDance values most. In 2016, the birthdate for those signing up for the app defaulted to the year 2000 (i.e., 16 years old).[823] In December 2016, one of TikTok's founders, Alex Zhu, confirmed the company

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[821] Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27, 2021), https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html; Bhanvi Staija, *TikTok's ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11, 2022), https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/.

[822] Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief ("Musical.ly Complaint") at p. 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D. Cal. Feb. 27, 2019) Dkt. # 1.

[823] Melia Robinson, *How to Use Musical.ly, The App With 150 million Users That Teens Are Obsessed With*, Bus. Insider (Dec. 7, 2016).

had actual knowledge that "a lot of the top users are under 13."[824]

707. In 2019 FTC alleged that despite the company's knowledge of these and a "significant percentage" of other users who were under 13, the company failed to comply with the COPPA.[825]

708. TikTok settled those claims by agreeing to pay what was then the largest ever civil penalty under COPPA as well as a consent decree setting forth several forms of injunctive relief.[826]

709. Then, in what it portrayed as an attempt to come into compliance with the consent decree and COPPA, TikTok made available to users under 13 what it describes as a "limited, separate app experience."[827] The child version of TikTok restricts users from posting videos through the app. Children can still, however, record and watch videos on TikTok.[828] For that reason, experts fear the app is "designed to fuel [kids'] interest in the grown-up version," a business growth strategy disguised as a compliance tool.[829]

710. These efforts to create and maintain a young userbase are reflections of Zhu's convictions about the importance of user engagement to growing TikTok. Zhu describes"[t]eenagers in the U.S. [as] a golden audience."[830]

4. TikTok is designed to promote addictive use by children and adolescents.

711. Once Snap ByteDance entices and enables children to use its platform, it uses a series

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[824] Jon Russell, *Muscal.ly defends its handling of young users, as it races past 40M MAUs* at 8:58–11:12, TechCrunch (Dec. 6, 2016), https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/.

[825] *Musical.ly* Complaint") at p. 8, ¶¶ 26–27.

[826] Lesley Fair, *Largest FTC COPPA settlement requires Musical.ly to change its tune*, FTC (Feb. 27, 2019), https://www.ftc.gov/business-guidance/blog/2019/02/largest-ftc-coppa-settlement-requires-musically-change-its-tune.

[827] Dami Lee, *TikTok stops young users from uploading videos after FTC settlement*, Verge (Feb. 27, 2019), https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrens-privacy-law.

[828] *Id.*

[829] Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022), https://ifstudies.org/blog/is-tiktok-dangerous-for-teens-.

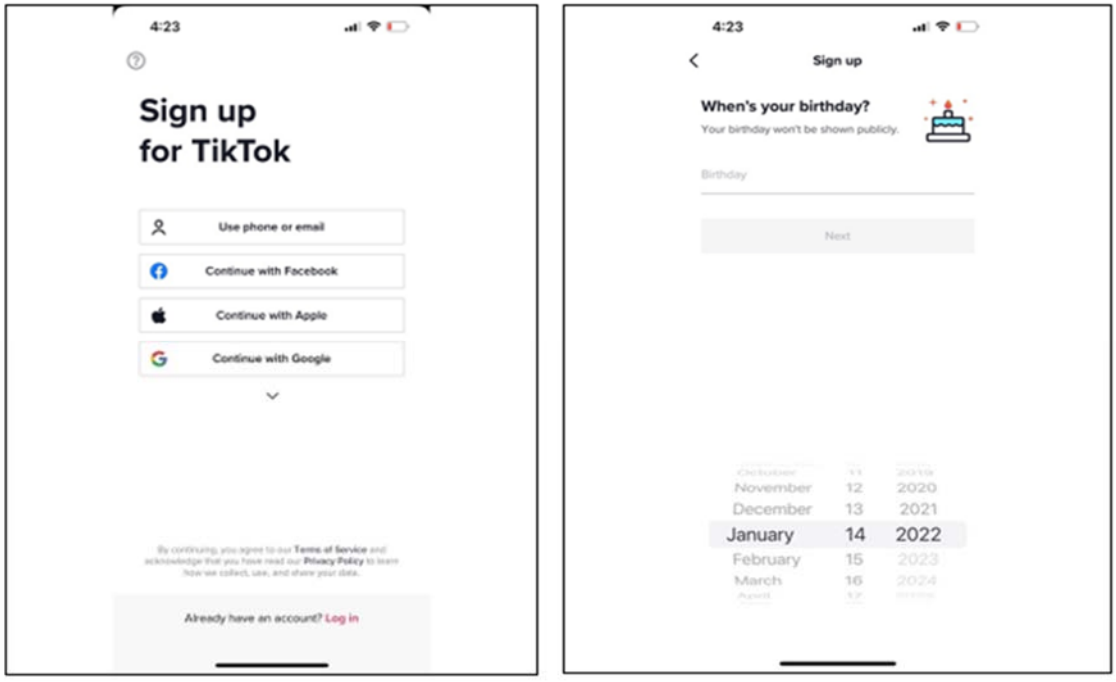
[830] *Id.*

of platform features that are designed to addict children. As laid out below, those features can be broadly grouped into two, often overlapping, categories: features that use manipulation techniques that are highly effective on youth and features designed to weaponize a user's data to promote endless passive usage of the platform. These features, in tandem with each other and the other harmful features described throughout this Complaint, induce compulsive use, and other severe mental and physical harm to young users of TikTok, including children in Plaintiffs' schools and communities.

a. <u>TikTok's deficient age-verification practices encourage use by children.</u>

712. TikTok's growth among youth in the U.S. has been enabled by its ineffective age verification and parental control procedures, which allow children under 13 unfettered access to the platform, without regard to parental consent, despite the fact that TikTok's terms of service require consent of parents or guardians for minors.

713. When a user first opens TikTok, they are prompted to "Login in to TikTok" or "Sign up" for an account using a phone number or email address. TikTok then asks, "When's your birthday?"



714. ByteDance does not verify the age that TikTok users report. Nor does it use any

method to verify that users who acknowledge they are minors have the consent of their parents or legal guardians to use the platform. In fact, at least as of 2020, TikTok still had not developed a company position on age verification.[831]

715. ByteDance also allows users to utilize TikTok without creating an account, which allows users to circumvent even the wholly ineffective age restrictions TikTok has for registered users. Indeed, TikTok allows users, no matter what age, to "browse as [a] guest," and watch TikTok's "For You" page, while TikTok's algorithm collects data about that user and their viewing behavior.[832]

716. ByteDance knows that many U.S. TikTok users under the age of 13 fail to report their birthdates accurately.[833] In July 2020, TikTok reported that more than a third of its 49 million daily users in the United States were 14 years old or younger. While some of those users were 13 or 14, at least one former employee reported that TikTok had actual knowledge of children even younger based on videos posted on the TikTok platform—yet failed to promptly take down those videos or close those accounts.[834]

717. ByteDance's Trust and Safety team recognizes that one of the biggest challenges it faces is "determining who is a minor (defined as users 13-17 years old)."[835]

718. Moreover, users under 13 can easily delete their age-restricted accounts and sign up

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[831] TIKTOK3047MDL-001-00060941 at *85 ("Minor Safety Policy & PnP,'" PowerPoint, January 2021).

[832] *Browse as Guest*, TikTok Support, https://support.tiktok.com/en/log-in-troubleshoot/log-in/browse-as-guest.

[833] Jon Russell, *Musical.ly Defends its Handling of Young Users, As it Races Past 40M MAUs*, TechCrunch (Dec. 6, 2016), https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/.

[834] Raymond Zhong & Sheera Frenkel, *A Third of TikTok's U.S. Users May Be 14 or Under, Raising Safety Questions*, N.Y. Times, Aug. 14, 2020, https://www.nytimes.com/2020/08/14/technology/TikTok-underage-users-ftc.htmlhttps://www.nytimes.com/2020/08/14/technology/TikTok-underage-users-ftc.html

[835] TIKTOK3047MDL-001-00060811 at *16.

for an over-13 account on the same mobile device—without any restriction or verification—by simply inputting a fake birthdate. Representative Anne Kuster raised this issue with TikTok CEO Show Chew in his March 23 congressional testimony.[836] Rep. Kuster indicated that her staff was able to impersonate a minor and create a different account with a more advanced age by merely deleting one and creating another.[837] The staff members did not even need to switch emails. Chew promised to "look at [this]."[838]

719. The absence of effective age verification measures also means that some adult users (including predators) claim to be children—with obvious dangers to the actual children on ByteDance's platform.

b. TikTok's approach to parental controls are dangerously deficient.

720. In April 2020, following the FTC settlement, ByteDance created a "Family Pairing" feature on TikTok. The supposed purpose of this feature was to allow parents to link their accounts to their children's accounts and enforce certain controls (such as screentime limits and restriction of "content that may not be appropriate for all audiences").[839]

721. "Family Pairing" is meant to allow parents to prevent their children from direct messaging other TikTok users. But ByteDance has designed TikTok's "Family Pairing" feature so that it is not mandatory for minor users. It is also unwieldy for adults to use, requiring a parent or guardian must create their own TikTok account to pair it with their child's account. Further, the "Family Pairing" feature is available only on the TikTok mobile app. It provides no protection when a child accesses TikTok through a web browser. And because this feature requires parents to know

[836] Energy and Commerce Committee, *TikTok: How Congress can Safeguard American Data Privacy and Protect Children from Online Harms*, Pending Transcript (March 23, 2023) https://energycommerce.house.gov/events/full-committee-hearing-tik-tok-how-congress-can-safeguard-american-data-privacy-and-protect-children-from-online-harms.

[837] *Id.*

[838] *Id.*

[839] *TikTok Introduces Family Pairing*, TikTok Newsroom (Apr. 15, 2020) https://newsroom.tiktok.com/en-us/tiktok-introduces-family-pairing.

the name of their child's account to pair it, youth can easily evade the protections of the "Family Pairing" feature by creating anonymous accounts, again without parental approval or knowledge.

722. ByteDance further stymies parents' ability to supervise minor childrens' use of TikTok by permitting minor users to block their parents' profiles, post ephemeral videos called "Stories" that disappear after 24 hours, and post those Stories to "Friends Only."

723. TikTok is aware that many youth are using the platform late at night and admits that such use is a "strong indicator" that those users are not getting the recommended eight hours of sleep necessary for their health and well-being.[840] Internal TikTok documents reveal that more than 20% of children are active on its platform between 12:00am and 5:00 am, when they should be sleeping.[841] Specifically, 19% of TikTok's 13-15-year-old users globally and 25% of users aged 16-17 are active on TikTok between 12:00am and 5:00 am.[842] Further depleting parents' and guardians' ability to supervise children's use of TikTok, until August 2021, TikTok would send push notifications to young users at all hours of the day or night to persuade them to log back on to TikTok. Since then, push notifications have been cut off at 9 pm for users self-identified as 13 to 15 years old, and after 10 pm for users self-identified as 16 or 17 years of age, but parents remain unable to set further limits on notification frequency and timing.

724. Until January 13, 2021, ByteDance also interfered with parental supervision and endangered children by defaulting all accounts, including those registered to children as young as 13, to "public." That allowed strangers to contact minor users regardless of age or location. ByteDance also intentionally and actively promoted these types of connections by suggesting accounts to follow through the "Find Friends" or "People You May Know" features.

725. Today, for users self-identified as 16 and over, ByteDance still sets the default privacy setting for all registered accounts to "public," meaning that anyone can view a user's profile, on or

[840] UT AG Compl. at 16, para. 42.

[841] *Id.* at 3, para. 5.

[842] *Id.* at 16, para. 42.

off TikTok, request the user as a friend, or engage with the user's videos.[843]

c. TikTok relies on manipulative design techniques to maximize compulsive use by children.

726. Like each of the other Defendants, ByteDance has designed TikTok with features that foster addictive and compulsive use by youth, leading to a cascade of mental and physical injuries.

727. Most of these features are fueled by the extremely granular user behavior data that ByteDance is constantly collecting.

728. A prominent example is one of TikTok's defining features—its "For You" page (or "FYP"). According to ByteDance, it is "central to the TikTok experience and where most of our users spend their time."[844]

729. TikTok's FYP uses ByteDance's powerful machine-learning algorithms to keep users on their platforms. As one commentator put it, "you don't tell TikTok what you want to see. It tells you."[845] And it tells you whatever will increase engagement.[846]

730. TikTok's internal documents make clear that habit formation is a core "mission" of the company:

> Pulling in and retaining new-users is difficult because it is causing these users to make behavioral changes to their current habits. The Habit Loop (neurological loop that governs habits) is broken down into 3 stages: the Cue, the Routine, the Reward. Prior to downloading TikTok, new-users already established "Routines" for cues (ex[ample] boredom, free-time, bed-time routine) that we may want as cue[s] to bring people onto TikTok. However, changing someone's routine is not as simple as asking them to. It's about the reward; the positive reinforcement and benefit that the person feels from

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[843] *See, e.g.*, Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999.

[844] *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you.

[845] Drew Harwell, *How TikTok Ate the Internet*, Wash. Post. (Oct. 14, 2022), https://www.theday.com/business/20221015/how-tiktok-ate-the-internet/.

[846] Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween and Teen Markets, Inc.* (June 2, 2016), https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quicklycapturing-the-tween-and-teen-m.html.

> doing that routine. TikTok[']s mission to increase retention is to discover what "rewards" our users are seeking during the cues we want to associate ourselves with.[847]

731. An internal document titled "TikTok Algo 101," which TikTok has confirmed is authentic, "explains frankly that in the pursuit of the company's 'ultimate goal' of adding daily active users, it has chosen to optimize for two closely related metrics in the stream of videos it serves: 'retention'—that is, whether a user comes back—and 'time spent.'"[848]

732. "This system means that watch time is key," explained Guillaume Chaslot, the founder of Algo Transparency.[849] Chaslot noted that "rather than giving [people] what they really want," TikTok's "algorithm tries to get people addicted[.]"[850]

733. To fulfill this goal, the TikTok algorithm analyzes a slew of data not about actual messages and content of videos but about users' behavior in relation to videos, focusing on the fact of a reaction not the information that prompted it.

734. As TikTok describes it, the algorithms populate each user's FYP feed by "ranking videos based on a combination of factors" that include, among others, any interests expressed when a user registers a new account, videos a user likes, accounts they follow, hashtags, captions, sounds in a video they watch, certain device settings, such as their language preferences and where they are located, and finally, the likelihood of the user's interest.[851]

735. ByteDance has designed TikTok's algorithms so that certain factors, such as time spent watching a video, are more important to the algorithms than others. For example, "whether a

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[847] UT AG Compl. at 12, para. 31.

[848] Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021), https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html.

[849] *Id*.

[850] *Id*.

[851] *Investigation: How TikTok's Algorithm Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21, 2021), https://www.wsj.com/video/series/inside-tiktoks-highly-secretive-algorithm/investigation-how-tiktok-algorithm-figures-out-your-deepest-desires/6C0C2040-FF25-4827-8528-2BD6612E3796; *see also* *How TikTok recommends videos #ForYou | TikTok Newsroom,* https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you.

user finishes watching a longer video from beginning to end, would receive greater weight than . . . whether the video's viewer and creator are both in the same country."[852]

736. TikTok's design features are therefore designed to give young users immediate gratification and boost rewards to encourage excessive, "routine use" of the platform. TikTok acknowledges it "ulitizes many coercieve design tactics that detract from user agency such as infinite scroll, contstant notifications, and the 'slot machine' effect."[853]

737. TikTok knows that its presence in people's lives monopolizes their time. For example, an internal TikTok Powerpoint titled *TikTok Strategy 2021 Positioning* shows its awareness of the addictive nature of its platform, noting Tikok "in most people's lives [is] like this: 'go on tiktok for 5 mins and 3 hours have passed' [o]r even this: 'my night routine: - watch 3 hours worth of tiktok videos[;] - try to follow the dance steps[;] - realise u suck at dancing n cry about it[;] - continue watching tiktok videos[;] - sleep.'"[854] At its core, TikTok's success can largely be attributed to design features "which limits user agency."[855]

738. This single-minded focus on capturing users' attention, without concern for what they're paying attention to is consistent with the simple formula that determines TikTok's revenues: the more time users spend on TikTok, the more advertising revenue TikTok reaps. Upon knowledge, information, and belief, formed after a reasonable inquiry under the circumstances, TikTok has designed its algorithms to addict users through advanced analytics that create a variable reward system, thereby causing users to spend increased amounts of time on the platform. Upon opening the TikTok application, users are automatically shown an endless stream of videos selected specifically for them by algorithms and the vast amounts of user data that TikTok collects. These choices are not made by examining the content of videos, but by observing every action that a user

[852] *Id*.

[853] UT AG Compl. at 14, para. 37.

[854] *Id.* at 12-13, para.32.

[855] *Id*. at 16, para. 44.

takes—on and off the platform—in minute detail.

739. TikTok's algorithms are designed to begin working the minute a user opens the platform. The FYP shows the user a single, full-screen stream of videos, then records how the user reacts. "A second of viewing or hesitation indicates interest; a swipe suggests a desire for something else."[856] With each data point collected, TikTok's algorithms winnow a mass of videos to a single feed, continually refined to keep users engaging often and at length.

740. An estimated 90-95% of the videos viewed on TikTok comes from its algorithms (as opposed to user selection), the highest among Defendants' platforms.[857]

741. This algorithmic encouragement of continuous scrolling and interaction makes it hard for users to disengage from the app. A recent ByteDance-funded study, which imaged the brains of TikTok and other social media platform users, found that users engaged with TikTok about 10 times a minute, twice as often as with peer apps.[858]

742. Rather than treating its users' inability to disengage as flashing alarm that its business practices hurt children, ByteDance leverages it as a selling point for advertisers. A recent TikTok marketing document observed that "the TikTok audience is fully leaned in."[859] Marketing research commissioned by TikTok found that, compared to other social media platforms, TikTok users evidenced a higher frequency of rate per minute. TikTok boasted, "[o]ur algorithm and shorter video formats create continuous cycles of engagement, making TikTok the leading platform for Information Density."[860]

743. TikTok's quest to monopolize user attention also often forces users down "rabbit

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[856] *Id*.

[857] *Investigation: How* TikTok's Algorithm *Figures Out Your Deepest Desires*, Wall St. J. (Jul. 21, 2021),

[858] *TikTok Ads Break Through Better Than Tv and Drive Greater Audience Engagement, TikTok*, https://www.tiktok.com/business/library/TikTokDrivesGreaterAudienceEngagement.pdf.

[859] *Id*.

[860] *Id.*

holes." TikTok's internal documents show that it knew about (and studied) the negative effect of "rabbit holes," sometimes also referred to as "filter bubbles." [861] Users end up in these rabbit holes, and become trapped in them, because TikTok has optimized its algorithms' design for retention and time spent on the app, honing in on signal showing user engagement even if the engagement is negative.[862] TikTok is designed to give users more of whatever will keep them looking at the app, without any consideration of what users want or the information that gets conveyed.

744. Once users are in a rabbit hole, it is extremely difficult to climb out.[863] In general, escaping a rabbit hole requires a user to repeatedly and actively strategize ways to counter the algorithm, pitting individual users' David against TikTok's machine-learning Goliath.

745. *The Wall Street Journal* has documented how ByteDance's content-agnostic algorithms, by amplifying even the slightest signals of user behavior, can quickly surround users with a torrent of dangerous information. The experimenters used bots, each programmed with various interests such as sports, forestry, dance, astrology, and animals. They did not disclose these interests upon registration with TikTok. Instead, TikTok's algorithms quickly learned the assigned interests from the bots' behavior—that is, "by rewatching or pausing on videos" related to the bots' programmed interests.[864]

746. One bot watched 224 videos in 26 minutes, lingering over videos with hashtags for "depression" or "sad." The algorithms quickly refined its output. Afterward, 93% of the videos TikTok showed that both were about depression or sadness. One post implored the bot to: "Just go. Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor and leave."[865]

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[861] TIKTOK3047MDL-001-000060248; TIKTOK3047MDL-001-000060268; TIKTOK3047MDL-001-000060258.

[862] Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021).

[863] Kaitlyn Tiffany, *I'm Scared of the Person TikTok Thinks I Am*, The Atlantic (June 21, 2021), https://www.theatlantic.com/technology/archive/2021/06/your-tiktok-feed-embarrassing/619257/.

[864] *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021), https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477.

[865] *Id.*

747. EKO, a consumer watchdog group based in Washington D.C., likewise recently investigated how the TikTok algorithms push videos about suicide to young children. Using accounts registered to fictitious 13-year-olds, researchers "liked" or "bookmarked" up to 10 videos with suicide promotion or other dark, depressing material. They then monitored the next 50 videos the TikTok algorithms pushed to the accounts. They found that TikTok "served up dangerous suicide content, including videos with guns being loaded and text suggesting suicide, alongside hundreds of comments in agreement and some listing exact dates to self-harm or attempt suicide. Beyond videos explicitly pushing suicide, TikTok's For You Page was filled with videos promoting content that pushes despondent and hopeless commentary." Researchers tracked suicide related hashtags on TikTok with millions of posts and billions of views. For example, posts with the "sh" hashtag, which stands for "self-harm," have over six billion views.[866]

748. In a follow-up experiment by *The Wall Street Journal*, bots were registered as users between 13 and 15 years old. One of those bots, programmed to pause on videos referencing drugs, lingered briefly on "a video of a young woman walking through the woods with a caption" referring to "stoner girls." The next day, the algorithms showed the bot a video about a "marijuana-themed cake." Then the "majority of the next thousand videos" that TikTok's algorithms produced "tout[ed] drugs and drug use," including marijuana, psychedelics, and prescription drugs.[867]

749. The algorithms immersed another bot—registered as a 13-year-old boy—into a rabbit hole of videos related to bondage and sex, including videos explaining, among other things, "how to tie knots for sex, recover from violent sex acts and discussing fantasies about rape."[868] The bot simply searched for the term "onlyfans"—a site known for hosting adult entertainment—and

[866] Suicide, Incels and Drugs: How TikTok's Deadly Algorithm Harms Kids, EKO, March 2023, https://s3.amazonaws.com/s3.sumofus.org/images/eko_Tiktok-Report_FINAL.pdf.

[867] Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8, 2021), https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944.

[868] *Id*.

watched a handful of videos in the results before returning to the FYP.[869] The algorithms subsequently bombarded the bot with videos about sex, and, as the bot lingered on those videos, the bot's feed became almost entirely dominated by sex-related videos. At one point, "more than 90 percent of [the] account's video feed was about bondage and sex."[870]

750. These streams of harmful content are neither an intended nor an unintended consequence of TikTok's algorithm; they are irrelevant to the algorithm, which uses inputs about users' reactions to select whatever outputs are most likely to generate more user reactions, the actual messages that are conveyed collateral damage in TikTok's single-minded quest for children's attention.

751. But collateral though these rabbit holes are, their impacts are severe. *The Wall Street Journal* concluded "that through its powerful algorithms, TikTok can quickly drive minors—among the biggest users of the app—into endless spools of content about sex and drugs."[871] In another follow-up experiment, *The Wall Street Journal* found that, once TikTok's algorithms determined that the bots would rewatch videos related to weight loss, it "speedily began serving more, until weight-loss and fitness content made up more than half their feeds—even if the bot never sought it out."[872] Indeed, TikTok's algorithms recommended over 32,000 weight-loss videos over a two-month period, "many promoting fasting, offering tips for quickly burning belly fat and pushing weight-loss detox programs and participation in extreme weight-loss competitions."[873]

752. Alyssa Moukheiber, a treatment center dietitian, explained that TikTok's algorithms

[869] *Id.*

[870] *Id.*

[871] *Id.*

[872] Tawnell D. Hobbs, *'The Corpse Bride Diet': How TikTok Inundates Teens With Eating-Disorder Videos*, Wall St. J. (Dec. 17, 2021), https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848.

[873] *Id.*

can push children into unhealthy behaviors or trigger a relapse of disordered eating.[874] Indeed, several teenage girls interviewed by *The Wall Street Journal* reported developing eating disorders or relapsing after being influenced by extreme diet videos TikTok promoted to them.[875]

753. Their experiences are not unique. Katie Bell, a co-founder of the Healthy Teen Project, explained that "the majority of her 17 teenage residential patients told her TikTok played a role in their eating disorders."[876]

754. Others, like Stephanie Zerwas, an Associate Professor of Psychiatry at the University of North Carolina at Chapel Hill, could not even recount how many of her young patients told her that "I've started falling down this rabbit hole, or I got really into this or that influencer on TikTok, and then it started to feel like eating-disorder behavior was normal, that everybody was doing that."[877]

755. In December 2022, the Center for Countering Digital Hate ("CCDH") conducted a similar study, creating TikTok accounts with a registered age of 13 in the United States, United Kingdom, Canada, and Australia.[878] For the first 30 minutes on the app, the accounts paused briefly on videos about body image and mental health and liked them. "Where researchers identified a recommended video matching one of the below categories, they viewed the video for 10 seconds and liked it. For all other videos, researchers would immediately scroll the For You feed to view the next video recommended by TikTok."[879] TikTok's algorithms, with their focus on time spent watching, seized on this pattern and, within minutes, began recommending videos about eating

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[874] *Id*.

[875] *Id*.

[876] *Id*.

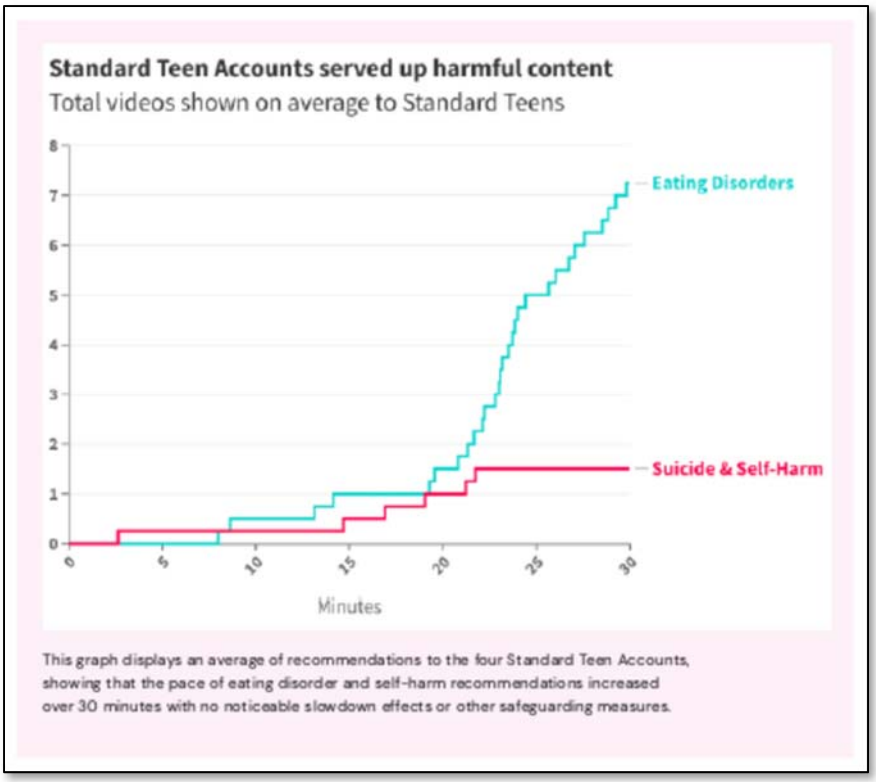
[877] *Id.*

[878] *Deadly by Design*, Center for Countering Digital Hate (Dec. 2022), https://counterhate.com/wp-content/uploads/2022/12/CCDH-Deadly-by-Design_120922.pdf.

[879] Tawnell D. Hobbs, *'The Corpse Bride Diet': How TikTok Inundates Teens With Eating-Disorder Videos*, Wall St. J. (Dec. 17, 2021), https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848.

disorders and self-harm.

756. The CCDH report further illustrated TikTok's algorithms at work, noting that, for an account that "Liked" videos about body image and mental health, the algorithms recommended similar material every 39 seconds. As the 30 minutes went on, TikTok recommended more videos related to eating disorders, suicide, and self-harm, as the graph below shows.



757. TikTok's rabbit holes are particularly problematic for young people, whose undeveloped frontal lobes lack the executive function and necessary impulse control to stop watching. The more young users engage by viewing or hesitating on a particular video, the more TikTok's algorithms learn about the user. The company knows that what it calls "filter bubbles" are harmful but notes it falls within a "grey area" of its policies consisting of material that is not harmful in isolation but "can negatively influence users when the content is consumed in a condensed way."[880] ByteDance uses this feature to exploit the vulnerabilities of children and teenagers and

[880] UT AG Compl. at 42, para. 115.

addict them to its platform.

758. Indeed, ByteDance admits that its recommendation algorithms create a "risk of presenting an increasingly homogeneous stream of videos," which feeds and creates addiction.[881]

759. Rather modifying the algorithms' s relentless focus on engagement to prevent children from falling down these harmful rabbit holes or minimizing its reliance on addictive design techniques that keep them immersed in them, ByteDance threw up its hands, insisting "[i]t is not TikTok's place to decide for people what is or is not 'appropriate' for them or their teens."[882]

760. This course of conduct resulted in the United Kingdom's Information Commissioner's Office bringing a fine of £12.7 million ($15.8 million) for breaches of data protection law, including the misuse of children's personal data.[883] The fine rested on TikTok's failure to obtain authorization from the appropriate responsible adults before processing and using children's data, failure to adequately inform users about how the platform uses and shares data, and failure "to ensure that U.K. users' information was processed lawfully and transparently."[884]

761. In addition to its' reliance on algorithmic recommendations, ByteDance uses a series of interrelated design features that exploit known mental processes to induce TikTok's users to use the platform more frequently, for more extended periods, and with more intensity (i.e., providing more comments and "Likes"). ByteDance knows or should have known that children, whose brains are still developing, are particularly susceptible to these addictive features.

762. ByteDance designed the app so users cannot disable the auto-play function on the FYP.[885] As noted above, when a user opens the TikTok app or visits the TikTok website, the

[881] *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), https://newsroom.tiktok.com/en-us/howtiktok-recommends-videos-for-you.

[883] Tom Fish, *TikTok Handed £12.7M UK Fine For Misusing Children's Data*, (Apr 4, 2023, 1:26 PM BST) https://www.law360.com/articles/1593391/tiktok-handed-12-7m-uk-fine-for-misusing-children-s-data.

[884] *Id.*

[885] *2 Best Ways You Can Turn off TikTok Autoplay*, Globe Calls (Dec. 16, 2022), https://globecalls.com/2-best-ways-you-can-turn-off-tiktok-autoplay/.

platform immediately begins playing a video on the user's FYP. The user may request more videos with a simple upward swipe, and the platform will deliver a seemingly endless video stream. If a user does not proceed from a video, it continues to play on an endless loop. The ability to scroll continuously induces a "flow-state" and distorts users' sense of time.

763. The TikTok app interface is designed with only a limited number of buttons and sections of the app for users to navigate, such that the design does not impede "flow."

764. The FYP also leverages principles of IVR to encourage compulsive usage, in the same fashion as Instagram Reels. A user swipes to receive the next video, and each swipe offers the prospect (but not the certainty) of dopamine-releasing stimuli.

765. The cumulative effect of these features is addictive, compulsive engagement. As researchers at the Brown University School of Public Health explained:

> Although the similarity may not be immediately evident, analysis of social media apps reveals that they are designed to function like slot machines — the "swipe down" feature required to refresh one's feed mirrors pulling a slot machine lever, and the variable pattern of reward in the form of entertaining videos on TikTok simulates the intermittent reward pattern of winning or losing on a slot machine; this pattern keeps individuals engaged under the impression that the next play might be "the one." . . . Provided that social media apps are functionally akin to slot machines, it is likely that the use of these apps is just as addictive as slot machines and fosters social media addiction, much like how slot machines contribute to gambling addiction.[886]

766. Dr. Julie Albright, a Professor at the University of Southern California, similarly explained that TikTok is so popular because users will "just be in this pleasurable dopamine state, carried away. It's almost hypnotic, you'll keep watching and watching." Users "keep scrolling," according to Dr. Albright, "because sometimes you see something you like, and sometimes you

[886] Sophia Petrillo, *What Makes TikTok so Addictive?: An Analysis of the Mechanisms Underlying the World's Latest Social Media Craze*, Brown Univ. (Dec. 13, 2021), https://sites.brown.edu/publichealthjournal/2021/12/13/tiktok/.

don't. And that differentiation—very similar to a slot machine in Vegas—is key."[887] TikTok also provides its own set of beauty enhancing filters, which cause insecurities and psychological injury in teens leading to body dysmorphia, eating disorder, self-harm, and in more severe cases, suicide.

767. Aza Raskin, the engineer who designed infinite scroll, described the feature as being "as if [social media companies are] taking behavioral cocaine and just sprinkling it all over your interface, and that's the thing that keeps you coming back and back and back." Because the infinite scroll does not "give your brain time to catch up with your impulses . . . you just keep scrolling."[888]

768. To reinforce this addictive experience, ByteDance intentionally distorts the concept of time on its platform by omitting certain information such as when a user uploaded a video. Similarly, TikTok's UI is designed to cover the clock displayed at the top of some types of smartphones to prevent users from keeping track of the time they spend on TikTok.[889]

769. In June 2022, after receiving public criticism regarding its platform's effects on people's mental health, ByteDance introduced various tools to purportedly encourage users to take a break from infinite scrolling, such as a "Take a Break" reminder and time-limit caps. ByteDance chose not to activate these tools by default and instead buried them behind "a hidden series of menus" so users would not use them.[890] Instead, TikTok merely "reminds" users that the Take A Break tools exist once they have exceeded 100 minutes of usage a day.

770. In March of 2023, TikTok announced additional measures to quell public further criticism about the addictiveness of its platform. Once these changes are implemented, minors under age 18 will by default have their use limited to one hour. However, this limit is only effective for children whose accounts are paired with a parent's account because it requires them to provide a

[887] John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok's Success*, Forbes (Jan. 18, 2020), https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be.

[888] *Id.*

[889] Louise Matsakis, *On TikTok, There is No Time*, Wired (October 3, 2019), https://www.wired.com/story/tiktok-time/.

[890] *See* UT AG Compl. at 16, para. 43.

code generated on the parent's account to extend the time limit. Even then, minors can simply create another, anonymous, unpaired account to avoid this limitation and their parent's oversight. Similarly, children with unpaired accounts can simply extend the time limit or even disable this feature themselves.

771. In addition to infinite scroll, ByteDance has designed TikTok so it has other design features that exploit social psychological impulses to induce children to use TikTok daily and for extended periods of time, adding to the platform's addictive nature. Other features actively encourage users to generate ephemeral photos and videos. For example, users can post expiring "Stories," short videos that disappear after 24 hours. These videos do not otherwise appear in a user's feed.[891]

772. Another relatively new feature, "TikTok Now," pushes daily notifications to users to share "authentic, real-time images or 10-second videos at the same time as your friends."[892] This feature is designed so that once a user gets the notification, the user has three minutes to post an image or video. That user cannot view friends' "TikTok Now" posts without sharing one of their own, and posts submitted outside of the three-minute window are marked as "late." TikTok preserves a user's TikTok Now history in a calendar view, which adds to the pressure to visit the app daily.

773. Like "Snap Streaks," "TikTok Now" does not enhance the communication function of the platform, but simply exploits young users' susceptibility to persuasive design, teenage social anxiety, and FOMO. ByteDance's insidious design of "TikTok Now" also employs point scoring and competition with others to drive frequent and continuous engagement by children, who otherwise risk checking in late and alienating other peers participating in the exchange.

774. ByteDance also designed TikTok to leverage the principle of IVR by encouraging

[891] Hilary Anderson, *Social media apps are 'deliberately addictive to users*, BBC (July 4, 2018), https://www.bbc.com/news/technology-44640959.

[892] *TikTok Now*, TikTok, https://www.tiktok.com/creators/creator-portal/product-feature-updates/tiktok-now.

users to "like," share, or reshare videos that others have created or posted. Receiving a "Like" or "Reshare" indicates that others approve of a user's posts, and satisfies the user's natural, developmentally predictable desire for acceptance. As discussed above, "Likes" activate the reward region of the brain and release dopamine to create a positive feedback loop.[893] Users return to TikTok again and again, hoping for yet another pleasurable experience.[894]

775. In addition, ByteDance designed TikTok to use reciprocity to manipulate users into using the platform. One example is the "Duet" feature, which allows users to post a video side-by-side with a video from another TikTok user. Users utilize "Duet" to react to the videos of TikTok creators. ByteDance intends the response to engender a reciprocal response from the creator of the original video, inducing them to return to the app.

776. Other platform features that work in combination to cause addiction and other harms include the following.

777. *First,* a platform-imposed limit to the length of videos. Initially, the maximum video time was 60 seconds. The limit was later increased to 3 minutes and is currently 10 minutes. This limit is imposed to keep users in a flow-like focused state. A user is more likely to become bored and end their session during a long video than during several varying videos. Video length limits in Defendants' platforms have conditioned users to have a shorter attention span across years of use.

778. *Second,* the interface of TikTok positions buttons on the bottom right of the screen, to avoid the milliseconds of delay of discomfort that could disrupt the flow-like state of the majority right-handed users tapping the like or comment buttons if placed elsewhere on the screen. (3) Unlike other platforms, TikTok continues to play a video's audio, and the top quarter of the video, while users view comments on the video. This design decision avoids disrupting a user's heightened focused "flow-state." (5) TikTok's interface places buttons and profiles overlaid on top of the

[893] Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020), https://www.iomcworld.org/open-access/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction-59222.html.

[894] *Id.*

videos, rather than in a separate area. This design prevents there from being any barrier between videos (such as a horizontal bar across the screen on the bottom of one video and on top of the next) and prevents users from having any pause time between videos to evaluate whether they should continue using the app before more algorithmically selected videos are played on their screen. (6) Videos automatically start playing as a user scrolls. Videos automatically restart once they conclude. In some circumstances, such as when a user sends a link of a video on TikTok to another user that views it in a web browsing app, the next video after that video will automatically play without the user scrolling. (7) Upon opening the app, users' view of the first video loaded is obstructed with a message saying, "swipe for more" and a graphic of a hand and figure swiping up. The user must scroll down to see an unobstructed video. This design feature trains users to reflexively scroll to the next video once one video ends. Thus, addiction is initiated by the app before the user even sees the first piece of content.

d. TikTok inflicts impossible beauty standards on young users.

779. ByteDance designed TikTok with image-altering filters that harm users. These filters allow children to artificially change their appearance, for example, by lightening their skin and eyes, giving them glowing tan skin, changing facial structure, or giving them larger lips or fluttering eyelashes.

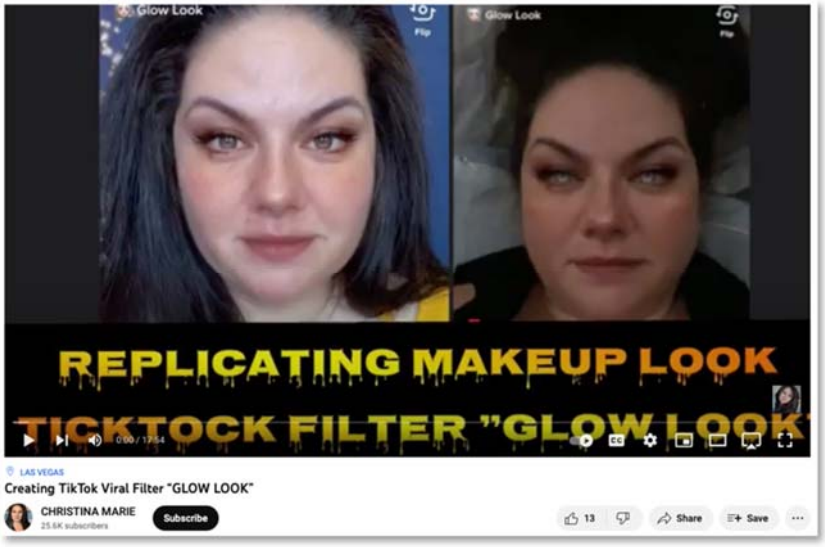
780. Young people often compare their filtered images to their real-life appearance, developing a negative self-image based on unrealistic, artificial images.[895] Many young girls use image-altering filters every day, with the filters subconsciously making them feel imperfect and ugly and "reduc[ing] their self-compassion and tolerance for their own physical flaws."[896]

781. The desire to resemble a filtered ideal is so compelling that there are online tutorials explaining how to recreate certain filters using makeup. Children's idealization of their filtered image is externally reinforced when the filtered images receive more "Likes," comments, and other

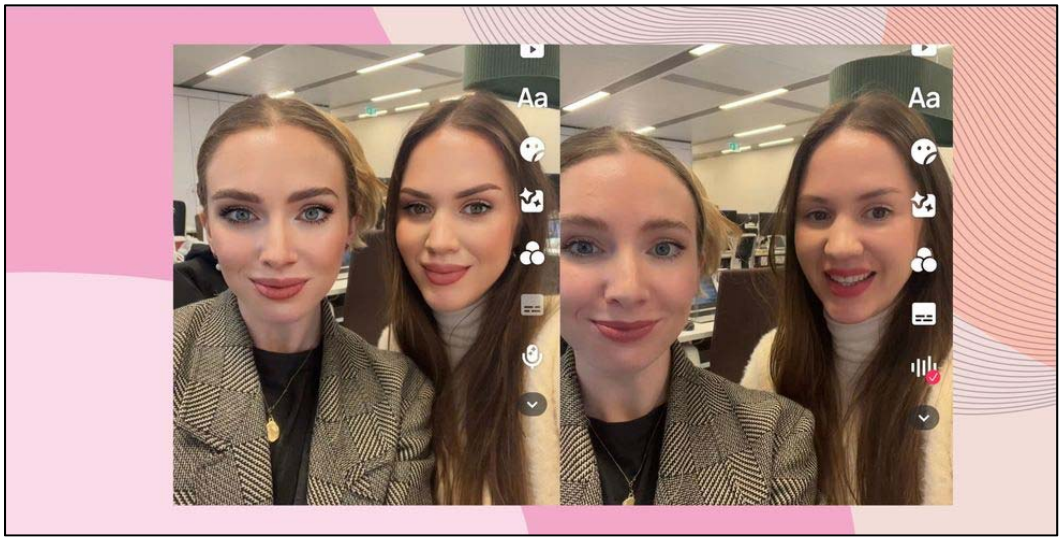
[895] Anna Haines, *From 'Instagram Face' To 'Snapchat Dysmorphia': How Beauty Filters Are Changing The Way We See Ourselves*, Forbes (Apr. 27, 2021).

[896] *Id*.

interaction. Young people also compare these interaction "scores" to those of friends and celebrities who use filters, reinforcing the idea that beauty depends on matching a digital ideal.



782. The newest TikTok filter "Bold Glamour" uses artificial intelligence to subtly reshape the user's face, enlarging the eyes, lifting the cheek bones while thinning the cheeks, smoothing the skin and plumping the lips. The result is a highly "idealized" yet realistic version of the user. Moreover, the filter is difficult to detect since the effect moves with user movements in real time.

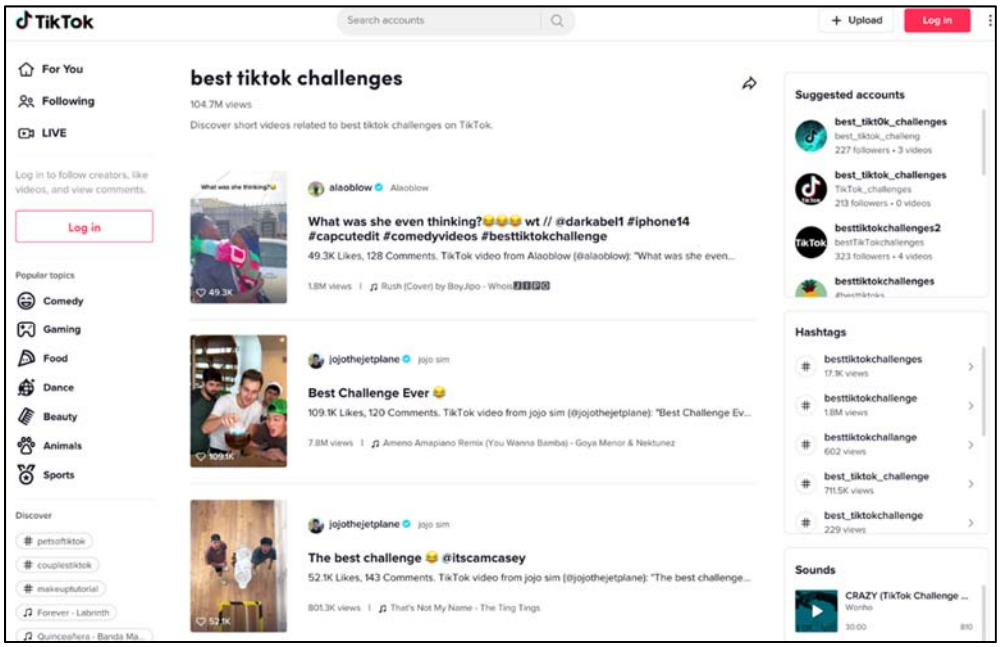


783. TikTok permits minors to use the Bold Glamour and other features without informing other users that the photos and/or videos have been re-touched or enhanced.

e. TikTok encourages dangerous, costly "challenges".

784. Challenges are campaigns that compel users to create and post in TikTok certain types of videos, such as performing a dance routine or a dangerous prank. Challenge videos have been described as a "cornerstone" of TikTok and are among the most popular features of the platform.[897]

785. Challenges are incorporated into TikTok's architecture and user interface. TikTok also actively promotes Challenges it determines to be the "best," i.e., most likely to keep users engaged, challenges to its users and fosters the associated competition and social rewards to achieve near-continuous engagement with the platform. [898]



786. ByteDance also encourages businesses to create challenges as a form of marketing, explaining that challenges are "geared towards building awareness and engagement," and "research shows that they can deliver strong results" and increased return on ad spending "at every stage of

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[898] *See* TIKTOK3047MDL-001-00000813 ("The algorithm is designed to surface viral content, regardless of its source.").

the funnel."[899]

787. The challenges promoted by TikTok include ones that specifically target school districts. For example, the "devious licks" challenge, discussed above, encourages students to damage and vandalize school property.[900] As a result of this challenge, school districts have sustained property damage, ranging from stolen urinals to smashed floor tiles.

788. In response, schools have been forced to lock down bathrooms for large portions of the day.[901] Other schools have resorted to diverting staff to monitor bathrooms during the school day.[902] Repairing damages resulting from the Devious Licks challenge puts strain on schools that already have budget constraints. Even for schools that do not suffer property damage, responding to threats of the challenge and communicating with students and families diverts significant time away from classroom instruction and other administrative activities.

789. Young users themselves also face serious harms, as the challenges' stakes grow more extreme and dangerous, a foreseeable consequence of TikTok's engagement-driven design. Numerous child users have injured or even killed themselves or others participating in viral pranks to obtain rewards and increase the number of "Likes," views, and followers.

790. A study of adolescents and young adults who participated in dangerous challenges found that "engaging in online challenges to gain likes and views was reported as highly important" to the participants. The study also found that "participants overlooked or were unaware of the short-term and long-term risks associated with the challenges." Moreover, "participants also frequently

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[899] *Branded Hashtag Challenge: Harness the Power of Participation*, TikTok for Business (Mar. 16, 2022), https://www.tiktok.com/business/en-US/blog/branded-hashtag-challenge-harness-the-power-of-participation.

[900] Megan Maples, "The 'Devious Licks' TikTok Challenge has Students Stealing Toilets and Vandalizing Bathrooms, CNN (Sept. 18, 2021), https://www.cnn.com/2021/09/18/health/devious-licks-tiktok-challenge-wellness/index.html.

[901] *Id.*

[902] *Viral 'Devious Licks' TikTok Challenge Encourages Kids to Steal from School*, PBS (Oct. 25, 2021), https://www.pbs.org/newshour/show/viral-devious-licks-tiktok-challenge-encourages-kids-to-steal-from-school.

encouraged others to perform the same or similar challenges in their posts, thus potentially contributing to social media through propagating the challenge."[903]

791. This is not news to ByteDance. Its own internal platform research has found that the number one most identified reason for teen participation in challenges is "[g]etting views/likes/comments," followed by "[i]mpressing others online." ByteDance therefore knows, or should know, that young users' quest for social acceptance will cause them to participate in dangerous online challenges to get "likes" or impress their peers. It is also foreseeable that the challenge architecture on TikTok will be used by young users to promote dangerous, destructive, and sometimes even deadly challenges.

792. Deaths, injuries, and destruction of property are the result of design choices made by ByteDance in the TikTok platform, including but not limited to (1) failure to verify age and identity of users, which allowed children as young as 8 or 9 to see these dangerous challenges; (2) defaulting the youngest users into public accounts, where some post dangerous stunts to increase their views or "Likes"; (3) designing the TikTok algorithms to push this material to young children without regard to safety; and (4) failing to include warnings to children or their parents that many of the challenges users see on TikTok are dangerous and potentially fatal.

793. Importantly, challenges are a key part of TikTok's strategy to expand user engagement through compulsive use. Challenges "go viral" in substantial part because users who have been induced to use the platform compulsively are encouraged to copy the challenge and post a TikTok video of themselves doing so. By TikTok's design, this then induces other users to view the videos and copy the challenge themselves.

5. <u>TikTok puts in place significant impediments to discontinuing use.</u>

794. Even if a user escapes the addictiveness of TikTok's design and decides to delete their account, ByteDance makes doing so a lengthy and complex undertaking. The deletion process is

[903] R. Roth, *A Study on Adolescents' and Young Adults' TikTok Challenge Participation in TikTok in South India*, Human Factors in Health Care (Dec. 2021). https://www.sciencedirect.com/science/article/pii/S2772501422000021.

designed to encourage users to retain their accounts, even if their stated reason for deletion is that the platform is endangering their safety or health.

795. When a user selects the "Deactivate or delete account" in the "Account" section of the TikTok app, the user is presented an option: "Delete or deactivate?" Deactivating an account will preserve the user's data, but hide it from the platform; deleting, on the other hand, will permanently delete all data associated with the account.

796. However, ByteDance designed TikTok so that deletion is not immediate. The data and account are preserved for 30 days, during which time the user can reactivate their account.

797. In addition, if a user selects the "Delete account permanently" option, the user is asked "Why are you leaving TikTok?" The user must select from the following list: (1) I'm leaving temporarily; (2) I'm on TikTok too much; (3) Safety or privacy concerns; (4) Too many irrelevant ads; (5) Trouble getting started; (6) I have multiple accounts; or (7) Another reason.

798. If a user selects "I'm on TikTok too much," ByteDance makes a last-ditch effort to retain the user by reminding the user that a limit can be set on the user's watch time on the platform. If a user selects "Safety or privacy concerns," the user is provided a list of resources to "secure" the account. If the user selects "[a]nother reason," a written explanation must be provided. The only option that does not provide or require further information is "I have multiple accounts." ByteDance isn't worried about users deleting merely one account if they already have multiple others.

799. Once a user selects a reason for deletion, the next screen prompts the user to download their TikTok data.

800. Then, TikTok requires the user to check a box at the bottom of the screen that says, "[b]y continuing, you reviewed your data request and wish to continue deleting your account." This contrasts with the process of a user "agreeing" to the Terms of Service and Privacy Policy during the registration process, which does not require a separate confirmation.

801. Once the user reaffirms their desire to continue with the deletion process, the platform takes the user to yet another screen, which once again asks whether the user wants to "delete this account?" The text also explains that the account will be deactivated for 30 days, during which the

user may reactivate the account, and after 30 days, the account and data associated with it will be permanently deleted. It goes on to warn that if a user deletes the account, the user will no longer be able to do many things in the app.

802. Once a user again confirms that they want to delete their account, TikTok requires validation with a 6-digit code sent to the telephone number or email address associated with the account. Only after the user receives and enters the code may they finally "delete" their account (after waiting 30 days).

803. ByteDance's account deletion process is inadequate for children attempting to escape its addictive and harmful platform. By requiring a child to go through multiple steps, while repeatedly offering alternatives, as well as a list of things they are giving up, the process is designed to convince them to change their mind rather than facilitate account deletion. Moreover, requiring the user to maintain a deactivated account for 30 days, rather than deleting it on demand, increases the chance that an addicted user will relapse and return to the app.

804. ByteDance's intentionally cumbersome deletion process prioritizes the retention of young users, and ad revenue that they generate, over their well-being.

6. TikTok facilitates the spread of CSAM and child exploitation.

805. ByteDance has designed various TikTok features that promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

806. TikTok's design features and ByteDance's conduct exacerbating the spread of CSAM causes Plaintiffs to be required to divert and increase resources and expenditures to provide education, counselling, disciplinary and other social services to harmed minors.

807. TikTok's design features enable the spread of this illegal material, and it receives value in the form of increased user activity for disseminating these materials on the platform.

808. TikTok allows users to add a location to publicly shared videos of themselves.[904]

[904] *Location Information on TikTok*, TikTok, https://support.tiktok.com/en/account-and-privacy/account-privacy-settings/location-services-on-tiktok.

TikTok encourages the use of location services, "prompt[ing] [users] to turn on Location Services when [users] browse the For You feed."

809. By providing access to a child user's present physical location, ByteDance encourages predators to locate nearby children for purposes of sexual exploitation, sextortion, and CSAM.

810. TikTok also possesses a "Your Private Videos" feature where users can create and store private videos that are only visible to the user, better known as "Post-in-Private" accounts, where adult predators store, create, post, and share CSAM. Within days of following a small number of "Post-in-Private" accounts, TikTok's algorithms begin recommending dozens of other "Post-in-Private" accounts to follow, making it easy for predators to view and share even more CSAM.[905]

811. Another defective feature of TikTok is its livestream product, "TikTok LIVE." Although ByteDance's policy restricts access to "TikTok LIVE" for anyone under eighteen, TikTok's inadequate age verification protocols make it easy for underage users to access this feature.[906]

812. Within "TikTok LIVE," another feature called "LIVE Gifts" allows "viewers to react and show their appreciation for [] LIVE content in real-time."[907] TikTok then awards "Diamonds" to LIVE creators based on the popularity of their content. "One way for creators to collect "Diamonds is to receive Gifts from viewers on [their] LIVE videos." Creators awarded "Diamonds" "may obtain a Reward Payment in money or in virtual items."[908]

813. ByteDance's design of the "LIVE Gifts" and "Diamonds" rewards greatly increases the risk of adult predators targeting adolescent users for sexual exploitation, sextortion, and CSAM. According to Leah Plunket, an assistant dean at Harvard Law School, "TikTok LIVE" is "the digital

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[905] *Id*.

[906] *What is TikTok LIVE*?, TikTok, https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/what-is-tiktok-live.

[907] *LIVE Gifts on TikTok*, TikTok, https://support.tiktok.com/en/live-gifts-wallet/tiktok-live/live-gifts-on-tiktok.

[908] *Id*.

equivalent of going down the street to a strip club filled with 15-year-olds."[909] "Livestreams on [TikTok] are a popular place for men to lurk and for young girls—enticed by money and gifts—to perform sexually suggestive acts."[910]

814. Another of TikTok's features enables predators to communicate privately with youth, with virtually no evidence of what was exchanged. The private messaging or "Direct messaging" feature allows a user to send a direct private message to another user. Predators use these messages to identify children willing to respond to a stranger's message and then prey on the child's vulnerabilities.

815. Although TikTok's features enable predators, TikTok does not have any feature to allow users to specifically report CSAM.[911]

816. Federal law mandates that ByteDance reports suspected CSAM to NCMEC under 18 U.S.C. § 2258A. For example, TikTok publicly announced to the Office of the United Nations High Commissioner for Human Rights that it was using NCMEC's image hashing technology to detect CSAM material, but then admitted internally that it had never used those tools, writing "Hey [redacted], could you please share the current status of the issue? From previous chat in the group, we promised we were using NCMEC hashed [sic] to detect CP [CSAM] content, but we actually didn't."[912]In violation of 18 U.S.C. § 2258A, ByteDance knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

817. ByteDance knowingly fails to take feasible, adequate, and readily available measures to remove these contraband materials from its platform in a timely fashion. TikTok has

[909] Alexandra Levine, *How TikTok Live Became a Strip Club Filled with 15 Year Olds*, Forbes (Apr. 27, 2022), https://www.forbes.com/sites/alexandralevine/2022/04/27/how-tiktok-live-became-a-strip-club-filled-with-15-year-olds/?sh=5d6cf08d62d7.

[910] *Id.*

[911] Canadian Centre for Child Protection, *Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms*, https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

[912] UT AG Compl. at 36, para. 97.

acknowledged internally that the problem continues to grow out of control, in large part because it never implemented its promises to launch detection and reporting strategies for sexual abuse material. As one TikTok team leader put it:

> Frankly we are not doing nowhere [sic] near enough work in this field and most of our work is reactive takedowns. Not only is this poor in efficiency, we are letting our users down who have to see [CSAM] content and then report to us.[913]

818. TikTok knows that it currently has low moderation accuracy for harmful CSAM-related violations, and that exploitative, child sexual abuse material has a 26% leakage rate on the platform. TikTok has internally acknowledged what this means: "In effect we are missing . . . 1 in 4 . . . violative content due to leakage." Surveys conducted by the company also demonstrate that TikTok knows that 40% of users encounter inappropriate content related to children, suggesting that a significant amount of harmful material depicting child sex abuse and exploitation exists on the platform without TikTok even detecting it.[914]

819. Internal chats between TikTok employees also show that the company knows CSAM is a big problem on the platform. Among children who share CSAM of themselves, 46% use the TikTok platform daily, a number that TikTok employees acknowledge is "concerning and seem[s] to confirm suspicions that we have a large base of under 12 on our app, AND that they are sharing" CSAM.[915]

820. According to some TikTok employees, the problem "feels like an emergency that we should assemble a task force to address." Despite this knowledge and its promises to the public that it takes steps to remove CSAM, TikTok has done little to address this "emergency."[916]

821. TikTok continues to rely on user reports (rather than proactive detection) to identify

[913] *Id.* at 34, para. 90.

[914] *Id.* at 35, para. 93.

[915] *Id.* at 36, para. 94.

[916] *Id.* at 36, para. 95.

CSAM. According to its own employees, this presents a "high risk." Policy discrepancies and disconnects have led moderators to leave child nudity videos viewable and available to those users who want to see them.[917] Similarly, users have reported "Post-in-Private" CSAM videos to TikTok, and ByteDance responded that no violations of its policy were found. One user searched for and contacted multiple TikTok employees to sound the alarm that CSAM was being created and shared within TikTok's "Post-in-Private" accounts. This user did not receive a single response to her concerns.[918]

822. ByteDance nonetheless continues to make false representations that they will "take immediate action to remove content, terminate accounts, and report cases to NCMEC and law enforcement as appropriate."[919]

823. ByteDance gains revenue for every daily user on TikTok in North America. Each user and their data are worth income, and ByteDance continues to benefit financially from predators who commit sexual abuse against children and/or share CSAM using ByteDance's platform.

7. ByteDance failed to adequately warn Plaintiffs and the public about the harms its platform causes and failed to provide instructions regarding safe use.

824. Bytedance has failed to adequately warn the public, including Plaintiffs and the children and parents within their schools and communities, about the physical and mental health risks posed by its platforms, and the increased resources that Plaintiffs would need expend to address the youth mental health crisis it caused. The risks to minors include a plethora of mental health disorders, such as compulsive use, addiction, eating disorders, anxiety, depression, insomnia, exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-harm, and death. The risks to Plaintiffs include having to increase and divert human and financial

[917] *Id.* at 36, para. 99.

[918] Gracelynn Wan, *These TikTok Accounts Are Hiding Child Sexual Abuse Material In Plain Sight*, Forbes (Nov. 14, 2022), https://www.forbes.com/sites/alexandralevine/2022/11/11/tiktok-private-csam-child-sexual-abuse-material/?sh=290dbfa63ad9

[919] *Protecting Against Exploitative Content*, TikTok, https://newsroom.tiktok.com/en-us/protecting-against-exploitative-content.

resources to address the mental health and disciplinary issues of students and minors in their communities as Plaintiffs seek to fulfill their mission (and obligation) to provide America's youth with educational, counselling, health, and other social and disciplinary services and public facilities.

825. Bytedance knew or should have known its design choices and conduct would have a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities, and would lead to Plaintiffs' increased expenditures and diverted resources and should have warned of such.

826. ByteDance targets young users via advertising and marketing materials distributed throughout traditional as well as digital media, including other social media platforms. ByteDance fails to provide adequate warnings in advertising and marketing campaigns to the public or potential adolescent consumers of the physical and mental harms associated with using TikTok.

827. Despite its funny, cheerful ads featuring smiling families and funny images, TikTok, as designed, presents serious risks to young users on the platform, through its distinctive and manipulative platform features, including a lack of adequate age and identity verification tools, as well as inadequate parental controls.

828. ByteDance fails to adequately warn young users of these risks beginning with the first stages of the platform registration process. At account setup, TikTok contains no warning labels, banners, or conspicuous messaging to adequately inform adolescent users of platform risks, potential dangers, and physical and mental harm associated with usage of the platform. Instead, ByteDance allows underage users to easily create an account (or multiple accounts) and fully access the platform.

829. ByteDance's failure to adequately warn young users about the risks of the platform continues even if they display signs of addiction or habitual and compulsive use. Besides the disabled by default "Take a Break" reminder, ByteDance does not warn users when their screen time reaches harmful levels or when young users are accessing the platform on a habitual basis.

830. Not only does ByteDance fail to adequately warn users about the risks associated with TikTok, but it also does not provide sufficient instructions on how children can safely use the platform. A reasonable and responsible company would instruct children on best practices and

safety protocols when using a platform known to contain danger and health risks.

831. ByteDance also failed to warn Plaintiffs about the dangerous, addictive nature of its platform, the resulting harms that occur from use of its platforms, and that Plaintiffs would be required to divert and expend additional human and financial resources to provide support to harmed minors through education, counseling, mental health, and other social, and disciplinary services required to be provided by Plaintiffs to address the youth mental health crisis.

832. ByteDance's failure to properly warn and instruct adolescent users and their parents as well as its failure to warn Plaintiffs has proximately caused significant harm to Plaintiffs, who have expended and continue to expend, significant resources addressing the impact of ByteDance's conduct on Plaintiffs' operations, including expending additional resources to provide support to impacted children and families.

8. ByteDance Knows That TikTok Harms Many Young Users.

833. ByteDance has a Trust and Safety division charged with identifying issues in the TikTok platform that are injurious to young users, monitoring malign and exploitative videos sent to young users, and recording, analyzing, and tabulating the mental and physical injuries young users sustain through their use of the TikTok platform.

834. TikTok Trust and Safety division personnel have engaged in thousands of communications through Lark discussing safety and health concerns arising from young users' addictive use of the TikTok platform; algorithmic designs that direct TikTok users to malign videos promoting depression, suicidality, eating disorders and negative body image; dangerous and deadly TikTok challenges; sexual exploitation of minor users; and the exchange of CSAM on TikTok. These concerns have been shared throughout the highest levels of TikTok Inc. and with engineers at ByteDance, Ltd. who designed the TikTok platform.

835. TikTok is fully aware of the risks its platform poses for adolescents and acknowledges that children are "more easily persuaded" and "likely don't understand the risks of unhealthy

usage."[920] Specifically, TikTok's [redacted] has acknowledged that "13-18 yo [TikTok] users are severely struggling with mental health, including thoughts of suicide and self-harm." In an internal digital well-being safety report, TikTok has also admitted that the design of its platform can trigger addictive behaviors that harm mental health:

> An internal study indicates that 50% of inactive TikTok users cited time management as an issue, 24% reported too many notifications, and 23% reported too much time spent on TikTok . . . . [C]ompulsive usage correlates with a slew of negative mental effects like loss of analytical skills, memory formation, contextual thinking, conversational depth, empathy, and increased anxiety. Various similar studies . . . also conclude that compulsive usage interferes with essential personal responsibilities like sufficient sleep, work/school responsibilities, and connecting with loved ones.[921]

E. FACTUAL ALLEGATIONS AS TO GOOGLE

836. Eric Schmidt, the former CEO of Google and more recently, parent company Alphabet, Inc., recently acknowledged the powerful, and purposeful, addictive effect of social media. Social media platforms are about "maximizing revenue," Mr. Schmidt said, and the best way to maximize revenue is to "maximize engagement." As Mr. Schmidt continued, in pursuit of their goal of maximizing engagement to increase revenues, social media platforms "play[] into the addiction capabilities of every human."[922]

837. Google's YouTube platform is no exception. It includes specific, carefully calibrated features that are known to exploit the mental processes of its users to keep them engaged for as long, as frequently, and as intensely as possible. Google knows that children and teenagers who flock in droves to its YouTube platform are particularly susceptible to these features. The impact of YouTube's addictive power on American youth has been devastating.

1. Background and overview of YouTube.

838. YouTube is a social media platform that allows users to post and consume countless

[920] TIKTOK3047MDL-001-00061434.
[921] UT AG Compl. at 18-19, ¶ 52.
[922] Issie Lapowsky, *Eric Schmidt: Social Media Companies 'Maximize Outrage' for Revenue*, Protocol (Jan. 6, 2022), https://www.protocol.com/bulletins/eric-schmidt-youtube-criticism.

hours of videos about virtually any topic imaginable. YouTube is available without any age verification feature or adequate parental controls, and comes pre-installed in many Smart-TVs, mobile devices, various digital media players like Roku, and video game consoles like PlayStation, Wii, Xbox and Nintendo.

839. YouTube allows users to search for specific videos. It also employs a powerful algorithm that exploits detailed user information to target each individual user with hours upon hours of videos recommended by YouTube.

840. A group of design experts and computer scientists created YouTube and launched the platform for public use in December 2005.

841. Technology behemoth Google quickly recognized YouTube's huge profit potential. In 2006, just a year after YouTube's launch, Google acquired YouTube for more than $1.65 billion in Google stock. At the time, Google's acquisition of YouTube was one of the largest-ever tech acquisitions.

842. YouTube primarily generates revenue by selling advertising. The more people who use YouTube and spend time on the site, the more ads YouTube can sell.[923] The ads are then embedded or placed within the endless stream of videos recommended to the user by YouTube's algorithms.

843. By 2012, YouTube users were watching close to four billion hours of video every month. Yet, the average YouTube user spent just fifteen minutes daily engaged with the platform.[924] Users "were coming to YouTube when they knew what they were coming to look for."[925] They

[923] Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant.

[924] John Seabrook, *Streaming Dreams: YouTube Turns Pro*, New Yorker (Jan. 16, 2012), https://www.newyorker.com/magazine/2012/01/16/streaming-dreams.

[925] Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017), https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed.

employed the platform to identify and watch certain videos, and then they were done.

844. To drive greater revenue, "YouTube . . . set a company-wide objective to reach one billion hours of viewing a day[.]"[926]

845. As Susan Wojcicki, YouTube's CEO explained, the goal of a "billion hours of daily watch time gave our tech people a North Star."[927]

846. Google decided that "the best way to keep eyes on the site" was to introduce a feature that would "[recommend] videos, [that were playing] or after one was finished."[928]

847. That new platform feature uses a recommendation algorithm to identify and push additional videos to users, which YouTube plays automatically through a feature called "autoplay." Autoplay begins the next video as soon as the previous video ends, creating a constant stream to keep users watching.

848. Google's design changes worked. Today, YouTube "has over 2 billion monthly logged-in users."[929] And that 2 billion figure does not capture all platform usage because YouTube, by design, allows users to consume videos without logging in or registering an account.

2. Google intentionally encourages youth to excessively use YouTube and then leverages that use to increase revenue.

849. Google knows that children and teenagers use YouTube in greater proportions than older demographics. YouTube now ranks as the world's most popular social media platform for minors. According to one recent report, more than 95% of children ages 13-17 have used

[926] Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant.

[927] *Id.*

[928] John Koetsier, *Digital Crack Cocaine: The Science Behind TikTok's Success*, Forbes (Jan. 18, 2020), https://www.forbes.com/sites/johnkoetsier/2020/01/18/digital-crack-cocaine-the-science-behind-tiktoks-success/?sh=765d1b4178be.

[929] *The Most Surprising Youtube Channel Statistics and Trends in 2023*, Gitnux Blog (March 24, 2023), https://blog.gitnux.com/youtube-channel-statistics/.

YouTube.[930] Nearly 20% of U.S. teens use YouTube "almost constantly."[931] Among U.S. teenagers who regularly use social media, 32% "wouldn't want to live without" YouTube.[932]

850. Rather than ensuring minors are not inappropriately or excessively using YouTube, Google has sought to dominate their attention.

851. YouTube's age controls are ineffective (or non-existent, since registration is not required). In addition, Google has developed and marketed a version of YouTube, YouTube Kids, explicitly targeted at children under 13. Google developed this platform to encourage early—and therefore lasting—adoption of YouTube by children.

852. Google knows that a robust and committed base of young users is key to maximizing advertising revenue. Indeed, it has aggressively touted its hold on child users to advertisers.

853. In 2014, for example, Google pitched its YouTube platform to Hasbro, a popular toy manufacturer, and specifically boasted of the platform's immense popularity among children, noting that it was "unanimously voted as the favorite website of kids 2-12" and that "93% of tweens" use the platform.[933]

854. In 2015, Google gave a similar presentation to toy manufacturer Mattel, the maker of Barbie and other popular kids' toys, highlighting children's widespread use of YouTube to persuade Mattel to display digital ads on the site.[934]

855. The FTC has aptly summarized Google's pitch to advertisers concerning the value of

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[930] Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022.

[931] *Id.*

[932] Victoria Rideout et al., *Common Sense Census: Media Use by Tweens and Teens, 2021* at 31, Common Sense Media (2022), https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

[933] Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, *FTC v. Google LLC* et al., No. 1::19-cv-02642-BAH, at 6 (D.D.C. Sept. 4, 2019) Dkt. #1-1 ("FTC Complaint") https://www.ftc.gov/system/files/documents/cases/youtube_complaint_exhibits.pdf.

[934] FTC Complaint, at 3.

its youth user base.[935] For example, Google boasted that YouTube "is today's leader in reaching children aged 6-11;" "the new 'Saturday Morning Cartoons';" "and the #1 website regularly visited by kids."[936]

856. Many of YouTube's most-viewed videos are kid-focused, and the most subscribed to and highest-paid YouTubers are children. With over 12 billion views, "Baby Shark Dance," a video aimed at toddlers, is the most viewed video in the history of YouTube – and it and five other child-focused videos make up the top ten YouTube videos of all time.[937] Child creators also dominate top-earner lists year after year. Ryan Kaji of Ryan's World (f/k/a Ryan ToysReview), a channel featuring now 12-year-old Ryan Kaji unboxing children's toys, has been among YouTube's Top 10 most-subscribed channels in the United States since 2016.[938] Ryan started Ryan's World in 2015 when he was only 3. By 2017, his videos had over 8 billion views, and by 2018, he was the highest-earning YouTuber in the world.[939]

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[935] *Google and YouTube Will Pay Record $170 Million for Alleged Violations of Children's Privacy Law*, FTC (Sept. 4, 2019), https://www.ftc.gov/news-events/news/press-releases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrens-privacy-law. ("YouTube touted its popularity with children to prospective corporate clients", said FTC Chairman Joe Simons.)

[936] FTC Complaint at 3,12, and 6-7.

[937] Most Viewed Videos of All Time • (Over 700M views) - YouTube. https://www.youtube.com/playlist?list=PLirAqAtl_h2r5g8xGajEwdXd3x1sZh8hC.

[938] Madeline Berg, *The Highest-Paid YouTube Stars of 2019: The Kids Are Killing It*, Forbes (Dec. 18, 2019), https://www.forbes.com/sites/maddieberg/2019/12/18/the-highest-paid-youtube-stars-of-2019-the-kids-are-killing-it/?sh=4c3df9a438cd; Madeline Berg, *The Highest-Paid YouTube Stars 2017: Gamer DanTDM Takes The Crown With $16.5 Million*, Forbes (Dec. 7, 2017), https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979.

[939] https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979 *Gamer DanTDM Takes The Crown With $16.5 Million*, Forbes (Dec. 7, 2017), https://www.forbes.com/sites/maddieberg/2017/12/07/the-highest-paid-youtube-stars-2017-gamer-dantdm-takes-the-crown-with-16-5-million/?sh=72de79413979; Natalie Robehmed & Madeline Berg, *Highest-Paid YouTube Stars 2018: Markiplier, Jake Paul, PewDiePie And More*, Forbes (Dec. 3, 2018), https://www.forbes.com/sites/natalierobehmed/2018/12/03/highest-paid-youtube-stars-2018-markiplier-jake-paul-pewdiepie-and-more/?sh=7d909c3f909a.

857. As with other Defendants, once Google lures children in, it then mines them (and all other users) for a breathtaking amount of behavioral data. Google's current privacy policy, which includes the YouTube platform's data collection, reveals how sweeping this data collection is. It states that Google tracks:

a. "information about the apps, browsers, and devices you use to access Google services . . . includ[ing] unique identifiers, browser type and settings, device type and settings, operating system, mobile network information including carrier name and phone number, and application version number. We also collect information about the interaction of your apps, browsers, and devices with our services, including IP address, crash reports, system activity, and the date, time, and referrer URL of your request."

b. "your activity in our services . . . includ[ing] Terms you search for[;] Videos you watch[;] Views and interactions with content and ads[;] Voice and audio information[;] Purchase activity[;] People with whom you communicate or share content[;] Activity on third-party sites and apps that use our services[;] and Chrome browsing history you've synced with your Google Account."

c. "Your location information [including] GPS and other sensor data from your device[;] IP address[;] Activity on Google services, such as your searches and places you label like home or work[;] [and] Information about things near your device, such as Wi-Fi access points, cell towers, and Bluetooth-enabled devices;"[940]

858. Google's privacy policy also indicates that, like other Defendants, it purchases data about its users from data brokers, which it euphemistically refers to as "trusted partners" or "marketing partners."[941]

859. As with other Defendants, YouTube's collection and analysis of user data allows it to assemble virtual dossiers on its users, covering hundreds if not thousands of user-specific data segments. This, in turn, allows advertisers to micro-target marketing and advertising dollars to very specific categories of users, who can be segregated into pools or lists using YouTube's data segments. Advertisers purchase ad real estate space on users' feeds, which allows them to place the right ads in front of these micro-targeted segments of users—including children, both in the main

[940] Information Google Collects. https://policies.google.com/privacy?hl=en#infocollect.

[941] *Id.*

YouTube frame and in the YouTube Kids platform. Only a fraction of these data segments come from material knowingly designated by users for publication or explicitly provided by users in their account profiles. Instead, many of these data segments are collected by YouTube through surveillance of each user's activity while using the platform and even when logged off the platform.[942]

860. As with Meta, Google's data policy does not inform users that the more time individuals spend using YouTube, the more ads Google can deliver and the more money it can make, or that the more time users spend on YouTube, the more YouTube learns about them, and the more it can sell to advertisers the ability to micro-target highly personalized ads.

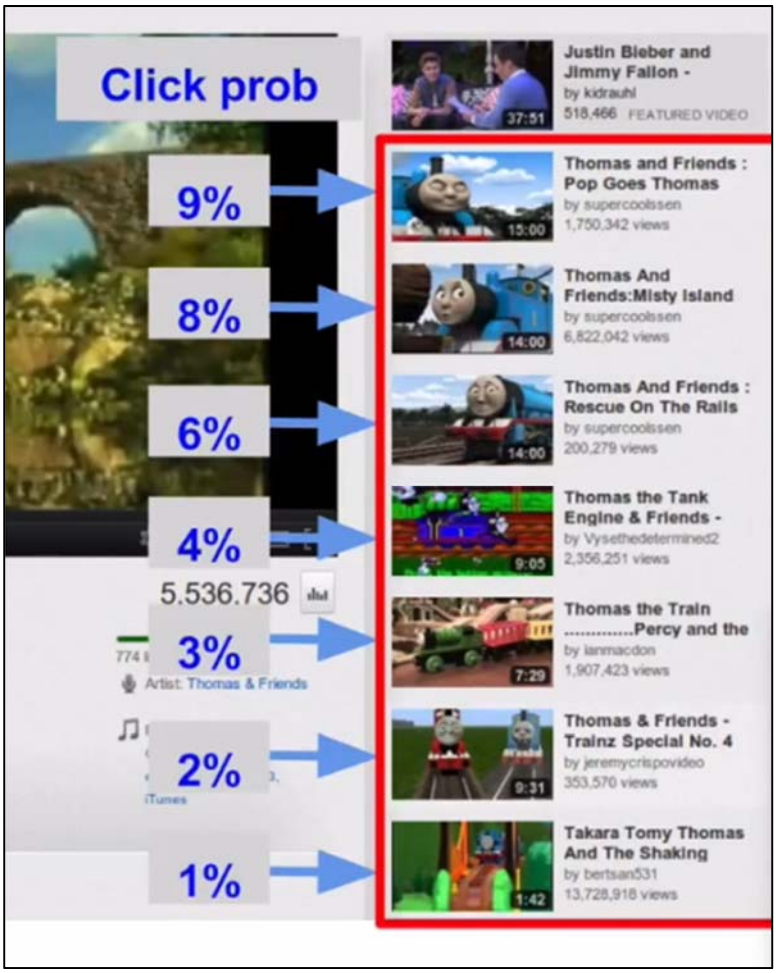
861. Google's secret virtual dossiers on its users, including child users, fuel its algorithms. The company relies on this data—including data plainly reflecting use by children—to train its algorithms. A Google engineer explained in a 2014 presentation:

> What do I mean by a training example? It's a single-user experience. On YouTube, perhaps it's that one [Thomas the Tank Engine] webpage my son saw six months ago, along with all the recommendations that we showed him. We also record the outcome to know whether the recommendations we made are good or whether they're bad. That's a single training exercise. On a large property, you can easily get into hundreds of billions of these.[943]

The engineer illustrated this with a slide, excerpted below, presenting how algorithmic analysis both structured the format of recommendations of Thomas the Tank Engine YouTube videos and provided information to inform algorithmic training through user engagement:

[942] About Targeting for Video Campaigns, Google, https://support.google.com/youtube/answer/2454017?hl=en.

[943] Alex Woodie, *Inside Sibyl, Google's Massively Parallel Machine Learning Platform,* Datanami (Jul. 17, 2014), https://www.datanami.com/2014/07/17/inside-sibyl-googles-massively-parallel-machine-learning-platform/.



862. Through these and other efforts, YouTube has delivered massive amounts of advertising revenue to Google. In 2021 alone, YouTube generated about $29 billion in revenue selling ads on its site.[944]

3. Google intentionally designed platform features to addict children and adolescents.

863. Google devised and continues to employ interrelated platform features to increase

[944] Andrew Hutchinson, *YouTube Generated $28.8 Billion in Ad Revenue in 2021, Fueling the Creator Economy*, Social Media Today (Feb. 2, 2022), https://www.socialmediatoday.com/news/youtube-generated-288-billion-in-ad-revenue-in-2021-fueling-the-creator/618208/; Jennifer Elias, *YouTube Is a Media Juggernaut That Could Soon Equal Netflix in Revenue*, CNBC (Apr. 27, 2021), https://www.cnbc.com/2021/04/27/youtube-could-soon-equal-netflix-in-revenue.html.

usage and maximize engagement by teenagers and children. Simply put, YouTube's platform features are engineered to induce excessive use and to addict adolescents and children to the platform.

a. Google's age-verification measures and parental controls are ineffective.

864. Google's strategy to entrench minor users begins with access. The company purports to impose a minimum age requirement and claims to verify the age of its users. But those features are ineffective, as they do little to prevent children and teenagers from using the platform.

865. Anyone with access to the Internet, regardless of age, can use YouTube and access every video available through the platform without registering an account or verifying their age. YouTube does not even ask for age information before allowing users to consume YouTube videos.

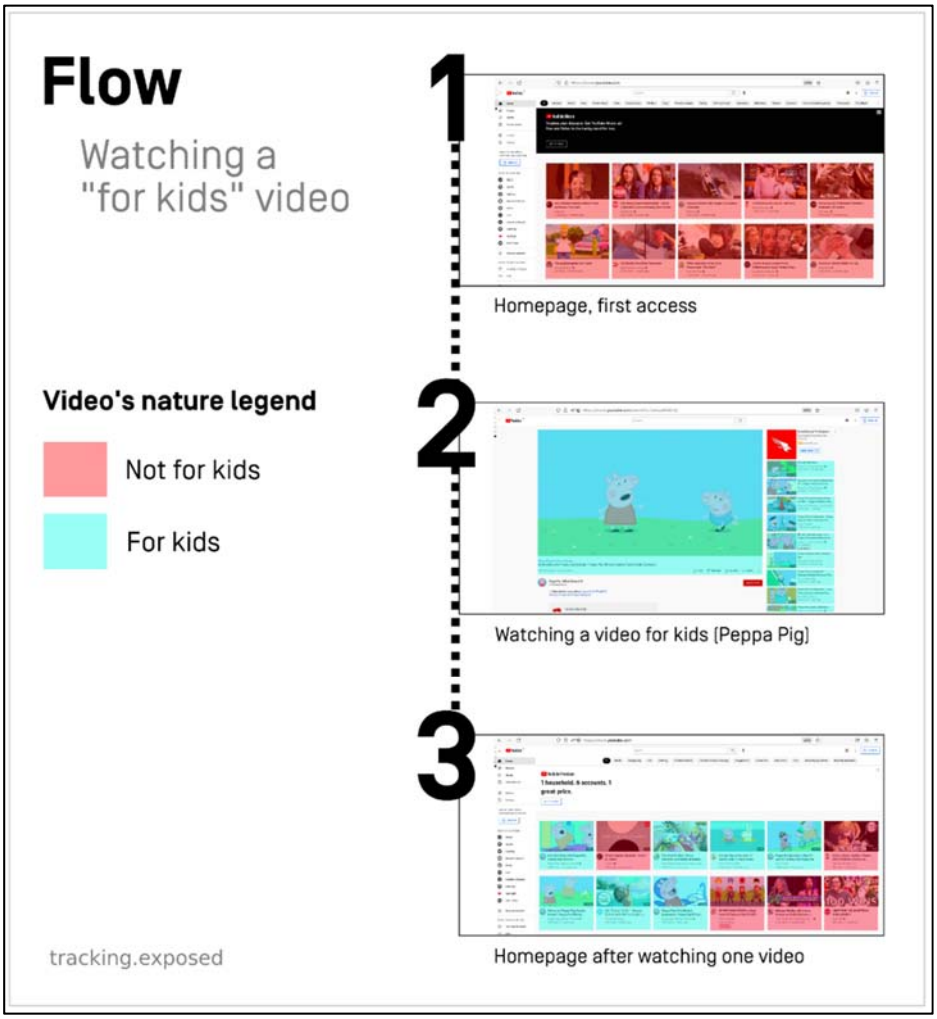
866. A user needs an account to post videos or like (or comment) on videos. But to get one, a user needs only enter a valid email address and a birthday. Google does nothing to verify the birthday entered by users in the U.S.—and the platform freely permits users to change their birthdays in their account settings after creating an account.

867. YouTube's ineffective age verification feature means that Google fails to protect children from other platform features discussed below that Google knows to be harmful to kids.

868. For example, for users 13-17, Google claims to disable YouTube's autoplay feature. However, that measure is virtually meaningless because children can use YouTube without logging into any account or by logging in but misreporting their age.

869. Even if children use YouTube Kids, that platform contains many of the same problems YouTube does, including a harmful, manipulative algorithm, as discussed below.

870. Google cannot credibly claim that it is unaware of the fact and extent of youth usage of YouTube. Google's system can "identify children as being much younger than 13."[945] According to Tracking Exposed, YouTube can rapidly identify a user as a child.[946]



871. Google engineers have publicly admitted YouTube's algorithms tracks user age. As Google engineers outlined in a 2016 paper on YouTube's recommendation system, "[d]emographic features are important for providing priors so that the recommendations behave reasonably for new

[945] Tracking Exposed Special Report: Non-Logged-In Children Using YouTube at 6 (July 1, 2022), https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf.

[946] *Id.*

users. The user's geographic region and device are embedded and concatenated. Simple binary and continuous features such as the user's gender, logged-in state and age are input directly into the network as real values normalized to [0; 1]."[947]

872. The Tracking Exposed Report indicates that there is "strong evidence" that Google's systems continue to refine and develop a more precise estimate for under 18 users, but the platform does not "redirect them to YouTube Kids."[948]

b. YouTube is designed to inundate users with features that use intermittent variable rewards and reciprocity.

873. Google uses a series of interrelated design features that exploit known mental processes to induce YouTube's users to use the platform more frequently, for more extended periods, and with more intensity (i.e., providing more comments and likes). Google knows children and adolescents, whose brains are still developing, are particularly susceptible to these addictive features.

874. These can be grouped as design features that dictate the app's presentation and those that use individual user data as a weapon of addiction. Google designed its YouTube platform to be visually addicting to child users. When children and teenagers use it, they are inundated with interface design features specifically designed to dominate their attention and encourage excessive use. Every aspect of how YouTube presents the format of a given page with a video is structured to ensure unimpeded viewing of the videos, alongside Download, Like, and Share buttons, plus recommendations for more videos to watch. The organization of these features is carefully calibrated to adjust to the space constraints of a user's device, such that minimal effort is needed to watch a video unimpeded. YouTube even has an ambient mode that uses dynamic color sampling so that the YouTube platform adapts to the video being watched and the user is not distracted by the

[947] Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf.

[948] Tracking Exposed Special Report: Non-Logged-In Children Using YouTube at 6, 19 (July 1, 2022), https://tracking.exposed/pdf/youtube-non-logged-kids-03July2022.pdf.

video's borders.[949]

875. Like the other Defendants, Google has designed YouTube with features that exploit endless troves of user data and neuropsychology to maximize the time users (including children) spend using the platform.

(i) IVR Features.

876. IVR features, such as notifications and Likes, compel YouTube creators and consumers, particularly children, to use the platform habitually and excessively. For example, in order to create and upload videos to YouTube, a user under 13 may submit a fictitious birthdate to gain access to posting privileges. Once the young user has a logged–in account, they can receive notifications and Likes. For example, the logged-in user can subscribe to various YouTube channels, which in turn will send them notifications from various channels they follow. Similarly, young creators who upload videos to YouTube can track the Likes received by the video. These features psychologically reward creators who upload videos to YouTube. As explained above, receiving a "Like" shows others' approval and activates the brain's reward region.[950] Thus, users' ability to Like videos encourages creators to use the platform compulsively, seeking additional pleasurable experiences.

877. YouTube uses two design features that induce flow state. The first is its panel of recommended videos. YouTube recommends videos both on the home page and on each video page in the "Up Next" panel.[951] This panel pushes an endless stream of videos that YouTube's algorithms select and "suggest" to keep users watching by teasing a pipeline of upcoming videos.

878. The second feature is Autoplay, which complements the Up Next panel and seamlessly

[949] YouTube rolling out black dark theme, 'Ambient Mode,' and other video player updates (Oct. 24, 2022). https://9to5google.com/2022/10/24/youtube-ambient-mode/.

[950] *See, e.g.*, Lauren E. Sherman et al., *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/.

[951] Recommended Videos, YouTube, https://www.youtube.com/howyoutubeworks/product-features/recommendations/.

takes users through the list of upcoming videos without users having to affirmatively click on or search for other videos. This constant video stream—comprised of videos recommended by YouTube's algorithms—is the primary way Google increases the time users spend using its platform. This endless video succession induces users to enter a flow state of consumption, which is particularly dangerous for children.

879. In an April 2021 letter to YouTube CEO Susan Wojcicki, the House Committee on Oversight and Reform criticized the Autoplay feature:

> This places the onus on the child to stop their viewing activity, rather than providing a natural break or end point. Without that natural stopping point, children are likely to continue watching for long periods of time.[952]

880. Google engineers also deploy strategies to induce "flow" state among users of YouTube, which, as described above, is dangerous to children because it induces excessive use and poses a risk of addiction, compulsive use, and sleep deprivation.

(ii) Shorts

881. This is particularly acute for Google's recently launched YouTube Shorts. YouTube Shorts enables users to create short videos up to 60 seconds in length, in a full-screen format popularized by TikTok and copied by Instagram Reels. As in Reels and TikTok, Shorts are presented in an algorithmically generated feed; users can watch new videos by swiping up on their smartphones. Instead of presenting videos chronologically, they are organized in a manner to drive the most watch time, as dictated by the algorithms. Indeed, Google hired TikTok's North American head, Kevin Ferguson, and other TikTok engineers to develop YouTube Shorts.[953]

882. An important target audience for YouTube Shorts is children. For example, YouTube

[952] Letter from Rep. Raja Krishnamoorthi, Chairman, Subcomm. on Economic and Consumer Policy, to Susan Wojcicki, CEO, YouTube (Apr. 6, 2021), https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2021-04-06.RK%20to%20Wojcicki-YouTube%20re%20YouTube%20Kids%20Content.pdf.

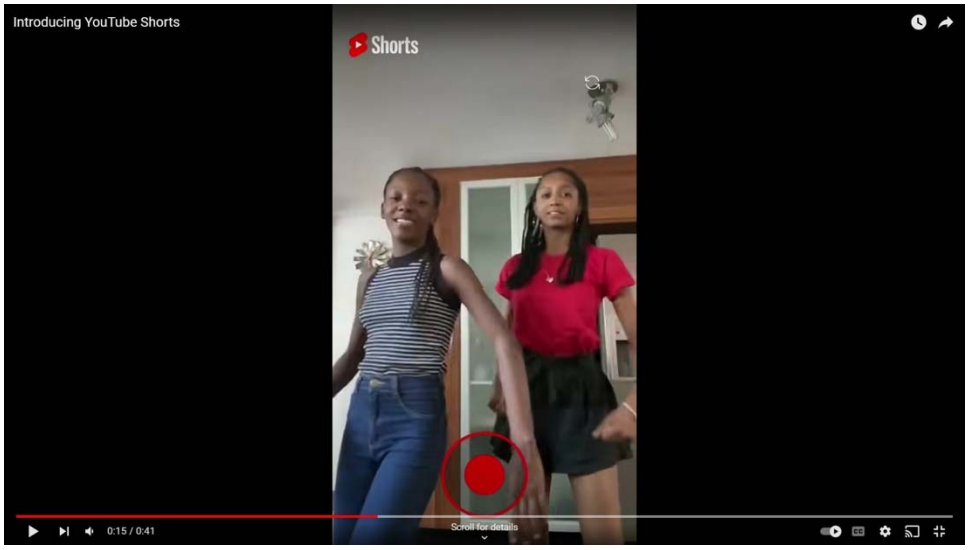
[953] Richard Nieva, *In the Age of TikTok, YouTube Shorts Is a Platform in Limbo*, Forbes (Dec. 20, 2022), https://www.forbes.com/sites/richardnieva/2022/12/20/youtube-shorts-monetization-multiformat/.

Shorts features videos, such as child "influencers," that appeal to children. YouTube Shorts contains dangerous features similar to other Defendants' short form platforms, including the ability to scroll continuously through YouTube Shorts, inducing a "flow-state" that distorts users' sense of time and facilitates extended use, and dangerous exploitation of "social comparison" techniques by promoting misleadingly idealized portrayals from influencers and others who are rewarded for posting popular material.

883. Almost immediately upon launch, Google began marketing YouTube Shorts to children. For example, Google launched an advertisement featuring images of children and teenagers (like in the screenshot below) engaging with the YouTube Shorts platform.

884. Similarly, another advertisement for Shorts explains how creators on YouTube can keep revenue generated by their Shorts' viewership, while an image of a video creator young enough to be in braces appears on screen.[954]

[954] Made on YouTube: New ways to join YPP, Shorts Monetization & Creator Music. https://www.youtube.com/watch?v=h6TrvCV3NdU.



885. Shorts is one of YouTube's interrelated design features that exploit known mental processes to induce YouTube users to use the platform more frequently, for more extended periods, and with more intensity, i.e., providing more comments and Likes. Not surprisingly, given its copycat origin, the issues with Shorts replicate the issues with TikTok and Instagram Reels, discussed above. Google knows or should have known that children, whose brains are still developing, are particularly susceptible to such addictive features.

(iii) Partner Program

886. YouTube has monetized users' susceptibility to IVR by allowing creators who obtain more than a thousand subscribers with four-thousand valid public watch hours to qualify for the YouTube Partner Program. Once a creator obtains this elite status, they are rewarded with "Super Chat" and "Super Stickers"—special images or distinct messages that other users can purchase and place on a creator's channel.[955] Paid messages, including the amount donated, are visible to all users. And the more a user pays for these promotions, the more prominent and longer the image is displayed. Both features are intended to allow a user to show support for, or connect with, their favorite YouTube creators. Similar to the "Likes" feature, this paid support activates the reward

[955] YouTube Partner Program: How to Make Money on YouTube, https://www.youtube.com/intl/en_us/creators/how-things-work/video-monetization/.

center of the creator's brain and releases dopamine while the creator is generating revenue for YouTube.

c. Google's algorithms are designed to maximize "watch time" by continuously collecting monstrous amounts of user data to fuel recommendation engines.

887. Google's recommendation systems use content-agnostic user behavior data to fuel YouTube's addiction machine.

888. YouTube began building its recommendation algorithms in 2008.[956] Its goal was to maximize how long users spent watching YouTube videos.[957]

889. These algorithms trawl through data about users' behavior to select the videos that populate a user's YouTube homepage, rank results in user searches, and push videos for viewers to watch through the "Up Next" auto-play feature.

890. YouTube designed its algorithms to manipulate users and induce them to use YouTube excessively.

891. A former YouTube engineer explained that when he designed YouTube's algorithm, YouTube wanted to optimize for one key metric: "watch time."[958] The engineer elaborated that "[i]ncreasing users' watch time is good for YouTube's business model" because it increases advertising revenue.[959] What users are watching is irrelevant, the fact of their attention is what the algorithm capitalizes on and maximizes.

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[956] Cristos Goodrow, *On YouTube's Recommendation System*, YouTube (Sept. 15, 2021), https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/.

[957] Ben Popken, *As Algorithms Take Over, YouTube's Recommendations Highlight a Human Problem*, NBC (Apr. 19, 2018), https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight- human-problem-n867596.

[958] William Turton, *How YouTube's Algorithm Prioritizes Conspiracy Theories*, Vice (Mar. 5, 2018), https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories.

[959] Jesselyn Cook & Sebastian Murdock, *YouTube Is a Pedophile's Paradise*, Huffington Post (Mar. 20, 2020), https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db.

892. In 2012, the YouTube Head of Content Creator Communications stated: "When we suggest videos, we focus on those that increase the amount of time that the viewer will spend watching videos on YouTube, not only on the next view, but also successive views thereafter."[960]

893. The current recommendation algorithm uses deep-learning neural networks, a type of software that returns outputs most likely to achieve the goals set by YouTube, based on the data fed into it, which largely consists of observations about users' behavior.[961] The VP of Engineering at YouTube explained:

> To provide such custom curation, our recommendation system doesn't operate off of a 'recipe book' of what to do. It's constantly evolving, learning every day from over 80 billion pieces of information we call signals. That's why providing more transparency isn't as simple as listing a formula for recommendations, but involves understanding all the data that feeds into our system. A number of signals build on each other to help inform our system about what you find satisfying: clicks, watchtime, survey responses, sharing, likes, and dislikes.[962]

894. The algorithm "develops dynamically" to predict which posts will hold the user's attention.[963] That is, it can also determine which "signals" are more important to individual users. For example, if a user shares every video they watch, including those they rate low, the algorithm learns to discount the significance of the user's shares when recommending videos.[964]

895. Besides the algorithm's self-learning capability, Google also consistently refines the

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[960] Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012), https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/.

[961] Alexis C. Madrigal, *How YouTube's Algorithm Really Works*, The Atlantic (Nov. 8, 2018), https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/; Paul Covington et al., *Deep Neural Networks for YouTube Recommendations*, Google (2016), https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf.

[962] Cristos Goodrow, *On YouTube's recommendation system*, Inside YouTube, Sept. 15, 2021, https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/.

[963] Cristos Goodrow, *On YouTube's Recommendation System*, YouTube (Sept. 15, 2021), https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/.

[964] *Id.*

algorithm, updating it "multiple times a month."[965]

896. In 2017, the former technical lead for YouTube recommendations explained that "one of the key things [the algorithm] does is it's able to generalize."[966] While older iterations "were pretty good at saying, here's another [video] just like" ones the user had watched, by 2017, the algorithm could discern "patterns that are less obvious," identifying "adjacent relationships" of "similar but not exactly the same" videos.[967]

897. In this way, the manner in which a user interacts with a post becomes a "signal" to the process algorithm and increases the data the process algorithm can feed to the content algorithm.

898. Over time, the algorithm became increasingly successful in getting users to watch recommended videos. By 2018, YouTube Chief Product Officer Neal Mohan said that the YouTube algorithm was responsible for more than 70% of users' time using the platform.[968] That is, more than 70% of the time users spend on YouTube was from recommendations Google's algorithm pushed to them rather than videos identified by users through independent searches.

899. The algorithm also keeps users watching for longer periods. For instance, Mohan explained that mobile device users watch for more than 60 minutes on average per session "because of what our recommendations engines are putting in front of [them]."[969]

900. The algorithm is particularly effective at addicting teenagers to the platform. In 2022, Pew Research Center found that "[a]bout three-quarters of teens visit YouTube at least daily,

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[965] Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization, and the Future for Creators*, Verge (Aug. 3, 2021), https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview.

[966] Casey Newton, *How YouTube Perfected the Feed*, Verge (Aug. 30, 2017), https://www.theverge.com/2017/8/30/16222850/youtube-google-brain-algorithm-video-recommendation-personalized-feed.

[967] *Id.*

[968] Joan E. Solsman, *YouTube's AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 1010, 2018), https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/.

[969] *Id.*

including 19% who report using the site or app almost constantly."[970]

901. A software engineer explained that the algorithm is "an addiction engine."[971] He raised concerns with YouTube staff, who said they had no intention to change the algorithms. After all, the engineer explained, the algorithm works as intended: "it makes a lot of money."[972]

902. Because users watch more than one billion hours of YouTube videos daily and approximately 70% of the time is spent on videos pushed to users by YouTube's "recommendation engine," Google's algorithms are responsible for hundreds of millions of hours users spend watching videos on YouTube each day.[973]

903. Google's "recommendation engine" is designed to prioritize the distribution of videos that are more likely to be addictive and more likely to lead to harm based on the trove of user data and "signals" it collects. For example, "fear-inducing videos cause the brain to receive a small amount of dopamine," which acts as a reward and creates a desire to do something over and over.[974] That dopaminergic response makes it more likely that a user will watch the harmful video, which the algorithm interprets as signaling interest and preference. Former Google engineers told *The Wall Street Journal* that "[t]he algorithm doesn't seek out extreme videos . . . but looks for clips that data show are already drawing high traffic and keeping people on the site. Those videos often tend to be sensationalist."[975] An investigation by *Bloomberg* put it simply: "In the race to one billion hours, a

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[970] Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022.

[971] Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant.

[972] *Id.*

[973] *See* Joan E. Solsman, *YouTube's AI Is the Puppet Master over Most of What You Watch*, CNET (Jan. 10, 2018), https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/.

[974] Josephine Bila, *YouTube's Dark Side Could be Affecting Your Child's Mental Health*, CNBC (Feb. 13, 2018), https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html.

[975] *Why is YouTube Suggesting Extreme and Misleading Content (2/7/2018),* https://www.youtube.com/watch?v=7AjA3Df6i6o; *see also* Josephine Bila, *YouTube's Dark Side*

formula emerged: Outrage equals attention."[976]

904. Google's algorithm makes it more likely for children to encounter harmful content by pushing them down "rabbit holes," which "[lead] viewers to incrementally more extreme videos or topics, which . . . hook them in."[977] For example, a user might "[w]atch clips about bicycling, and YouTube might suggest shocking bike race crashes." [978] In this way, the algorithm makes it more likely that youth will encounter content that is violent, sexual, or encourages self-harm, among other types of harmful content.

905. YouTube's "recommendation engine" creates a vicious cycle in its ruthless quest to grow view time. Users who get pushed down rabbit holes then become *models* for the algorithm. And the algorithm consequently emphasizes keeping youth on the platform for as long as possible, it applies these patterns to more and more users. That is, because Google designed the algorithm to "maximize engagement," uncommonly engaged users become "models to be reproduced."[979] Even on YouTube Kids, Google's platform designed for children under 13 years old, researchers from the Tech Transparency Project found that the platform's algorithm fed children content related to drugs and guns, as well as beauty and diet tips that risked creating harmful body image issues. For example, the researchers found videos speaking positively about cocaine and crystal meth; instructing users, step-by-step, how to conceal a gun; explaining how to bleach one's face at home;

Could be Affecting Your Child's Mental Health, CNBC (Feb. 13, 2018), https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html.

[976] Mark Bergen, *YouTube Executives Ignored Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019).

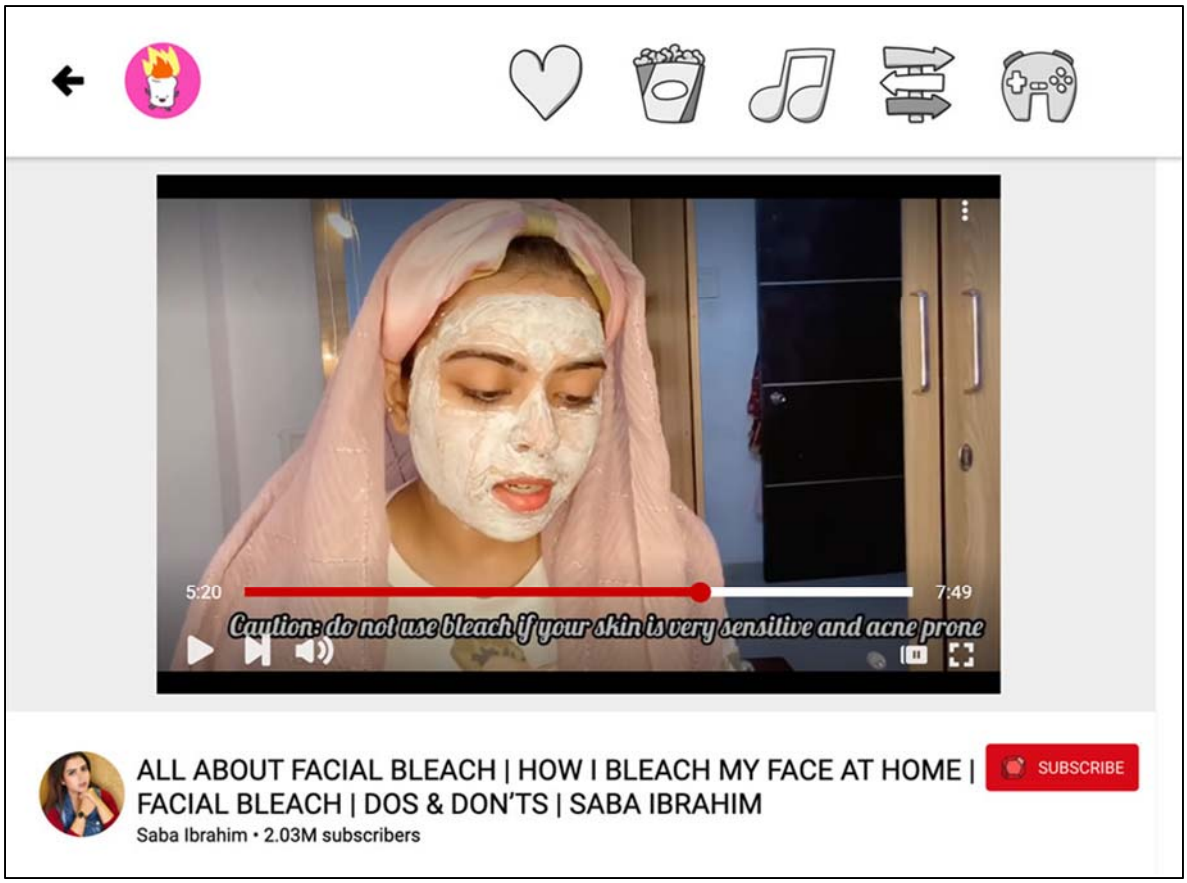
[977] Max Fisher & Amanda Taub, *On YouTube's Digital Playground, an Open Gate for Pedophiles*, NY Times (June 3, 2019), https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html.

[978] Max Fisher & Amanda Taub, *On YouTube's Digital Playground, an Open Gate for Pedophiles*, NY Times (June 3, 2019), https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html.

[979] Guillaume Chaslot, *The Toxic Potential of YouTube's Feedback Loop*, Wired (Jul. 13, 2019), https://www.wired.com/story/the-toxic-potential-of-youtubes-feedback-loop/.

and stressing the importance of burning calories.[980]

906. Amy Kloer, a campaign director with the child safety group Parents Together, spent an hour on her preschool-age child's YouTube Kids account and found videos "encouraging kids how to make their shirts sexier, a video in which a little boy pranks a girl over her weight, and a video in which an animated dog pulls objects out of an unconscious animated hippo's butt."[981] Another parent recounted how YouTube Kids autoplay feature led her 6-year-old daughter to "an animated video that encouraged suicide."[982]



907. These are not isolated examples. According to Pew Research Center, 46% of parents of children 11 or younger report that children encountered videos that were inappropriate for their

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[981] Rebecca Heilweil, *YouTube's Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021), https://www.vox.com/recode/22412232/youtube-kids-autoplay.

[982] *Id.*

age.[983] And kids do not "choose" to encounter those inappropriate videos—YouTube's algorithm—its "recommendation engine"—directs and pushes them there. Again, YouTube's algorithm is responsible for 70% of the time users spend using the platform.[984]

908. YouTube's algorithm also is not choosing to have children encounter specifically inappropriate videos. The algorithm is largely unconcerned with the actual information in videos it feeds users, instead focusing on data about how users react to the videos. Why someone reacts is not important, only that they do.

909. Other reports have confirmed that YouTube's algorithm pushes users towards harmful conduct.

910. In 2021, the Mozilla Foundation studied 37,000 YouTube users, finding that 71% of all reported negative user experiences came from videos recommended to users by Google's algorithm.[985] And users were 40% more likely to report a negative experience from a video recommended by YouTube's algorithm than from one they searched for.[986] Importantly, videos that elicited those negative experiences "acquired 70% more views per day than other videos watched by [study] volunteers."[987]

911. These problems combine to compel children and teenagers to overuse a platform that adversely affects their mental health. Mental health experts have warned that YouTube is a growing

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[983] Brooke Auxier et al., *Parenting Children in The Age of Screens*, Pew Rsch. Ctr. (July 28, 2020), https://www.pewresearch.org/internet/2020/07/28/parental-views-about-youtube/.

[984] Joan E. Solsman, *YouTube's AI Is the Puppet Master Over Most of What You Watch*, CNET (Jan. 10, 2017; 10:05A.M. PT), https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/.

[985] YouTube Regrets: A Crowdsourced Investigation into YouTube's Recommendation Algorithm, Mozilla Foundation 13 (July 2021), https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

[986] *Id.*

[987] YouTube Regrets: A Crowdsourced Investigation into YouTube's Recommendation Algorithm, Mozilla Foundation at 3 (July 2021), https://assets.mofoprod.net/network/documents/Mozilla_YouTube_Regrets_Report.pdf.

source of anxiety and inappropriate sexual behavior among kids under 13 years old. Natasha Daniels, a child psychotherapist, described treating children between 8 and 10 years old, who were "found doing sexual things: oral sex, kissing and getting naked and acting out sexual poses."[988] This kind of behavior "usually indicates some sort of sexual abuse."[989] Previously, Daniels would typically "find a child who has been molested himself or that an adult has been grooming the child for abuse."[990] But "in the last five years, when I follow the trail all the way back, it's YouTube and that's where it ends."[991]

912. Daniels has also seen increased rates of anxiety among children using YouTube. And because of that anxiety, those children "exhibit loss of appetite, sleeplessness, crying fits and fear."[992] Ultimately, she says, "YouTube is an ongoing conversation in my therapy practice, which indicates there's a problem."[993]

913. One study determined that using Google's platform was "consistently associated with negative sleep outcomes."[994] Specifically, for every 15 minutes teens spent using YouTube, they were 24% less likely to get seven hours of sleep. According to Dr. Alon Avidan, director of the UCLA Sleep Disorders Center, YouTube is particularly sleep disruptive because its recommendation algorithm and Autoplay feature make it "so easy to finish one video" and watch

[988] Josephine Bila, *YouTube's Dark Side Could be Affecting Your Child's Mental Health*, CNBC (Feb. 13, 2018), https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html.

[989] *Id.*

[990] *Id.*

[991] *Id.*

[992] *Id.*

[993] *Id.*

[994] Meg Pillion et al., *What's 'app'-ning to adolescent sleep? Links between device, app use, and sleep outcomes*, 100 Sleep Med. 174–82 (Dec. 2022), https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub.

the next.[995] Similarly, a signal that the YouTube algorithm relies on is the "time of day" a user is watching—a signal that, when used to maximize length of duration with the YouTube platform, induces sleep deprivation.[996]

914. Sleep deprivation is, in turn, associated with poor health outcomes, and impacts student learning thereby making it more difficult for schools to educate students. For example, "insufficient sleep negatively affects cognitive performance, mood, immune function, cardiovascular risk, weight, and metabolism."[997] Sleep deprivation also interferes with Plaintiffs' operations as additional resources must be diverted or expended to address children's inability to focus, learn, follow directions, and interact positively with other students and teachers when they are sleep deprived.

915. Compulsive YouTube use can also harm brain development. According to Donna Volpitta, Ed.D, "[c]hildren who repeatedly experience stressful and/or fearful emotions may under develop parts of their brain's prefrontal cortex and frontal lobe, the parts of the brain responsible for executive functions, like making conscious choices and planning ahead."[998]

916. Google's algorithm also promotes the creation of and pushes children towards extremely dangerous prank or "challenge" videos, which often garner thousands of "Likes," adding to the pressure young people feel to participate. The neurological and psychological techniques by which Google, like other Defendants, fosters excessive, addictive use of YouTube in turn foster watching "challenge" videos, and in turn negatively impact schools who having to deal with the

[995] Cara Murez, *One App Is Especially Bad for Teens' Sleep*, U.S. News & World Rep. (Sept. 13, 2022), https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep.

[996] YouTube, *How YouTube Works*, https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content.

[997] Jessica C. Levenson et al., *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36–41 (Apr. 2016), https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025.

[998] Josephine Bila, *YouTube's Dark Side Could be Affecting Your Child's Mental Health*, CNBC (Feb. 13, 2018), https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html.

fallout.

917. Even though Google knew or should have known of these risks to its youth users, Google's platform lacks any warnings that foreseeable platform use could cause these harms.

918. And despite all the evidence that YouTube's design and algorithms harm millions of children, Google continues to manipulate users and compel them to use the platform excessively, to enhance Google's bottom line, often resulting in significant harm.

d. YouTube's features include impediments to discontinuing use.

919. As with other Defendants, Google has intentionally designed its platforms so that adolescent users, including young people in Plaintiffs' schools and communities face significant navigational obstacles and hurdles when trying to delete or deactivate their accounts, in contrast to the ease with which users can create those accounts.

920. *First*, because YouTube is accessible without a user needing to log in, YouTube users cannot prevent themselves from being able to access YouTube by deleting their YouTube account.

921. *Second*, YouTube accounts are linked to a user's broader Google account. These accounts are structured such that, for a user to delete a YouTube account, the user must also delete the user's entire Google account. This means that if a YouTube user uses Google's other platforms, such as the popular email service Gmail, those accounts will be lost as well. This structure holds hostage user data—if a child needs to keep their email account through Google (for instance, if that is a requirement of their school), they cannot delete their YouTube account, even if they want to. If a user stores family photos in Google Photos, but wants to delete their YouTube account, they must choose between storage for their photos or deleting their YouTube account. Similarly, if a user has purchased books or movies through Google's digital market Google Play, the user's copy of those books or movies will be deleted if the user deletes their Google account to rid themselves of YouTube. Google explicitly threatens users with this consequence on the page where users can delete their account, listing every associated account Google will delete and providing examples of the kinds of videos that will be deleted if a user deletes their YouTube account.

922. *Third*, Google intentionally designed its platform so that to delete a user's Google

account, a user must locate and tap on six different buttons (through six different pages and popups) from YouTube's main feed to delete an account successfully. This requires navigating away from YouTube and into the webpages of other Google platforms. As with Meta, users are still able to recover their accounts after deletion—though unlike Meta, Google does not tell users when their accounts will become unrecoverable, just that it will occur sometime after deletion.

4. Google facilitates the spread of CSAM and child exploitation.

923. Various design features of YouTube promote and dramatically exacerbate sexual exploitation, the spread of CSAM, sextortion, and other socially maladaptive behavior that harms children.

924. Google's design features and conduct exacerbating the spread of CSAM causes Local Government and School District Plaintiffs to be required to divert and increase resources and expenditures to provide education, counselling, disciplinary and other social services to harmed minors.

925. Google is required to comply with COPPA and obtain verifiable parental consent before collecting personal information from children. It fails to do so. In 2019, the FTC and New York Attorney General alleged in a federal complaint that Google and YouTube violated COPPA by collecting personal information from children without verifiable parental consent.[999]

926. Google and YouTube collected persistent identifiers that they used to track viewers of child-directed channels across the Internet without prior parental notification, in violation of Sections 1303(c), 1305(a)(1), and 1306(d) of COPPA.[1000]

927. Google and YouTube designed the child-centered YouTube Kids product. Despite its clear knowledge of this channel being directed to children under 13 years old, Google served

[999] Fed. Trade Comm'n, Google and YouTube Will Pay Record $170 Million for Alleged Violations of Children's Privacy Law (2022), https://www.ftc.gov/news-events/news/pressreleases/2019/09/google-youtube-will-pay-record-170-million-alleged-violations-childrensprivacy-law.

[1000] *Id.*

targeted advertisements on these channels.[1001]

928. Google pays its users to create content because it benefits from increased user activity and receives something of value for its YouTube Partner Program.[1002]

929. Google allows users to monetize its product to generate revenue for itself and its users, including users that violate laws prohibiting the sexual exploitation of children.

930. According to its own guidelines, Google prohibits using its social media product in ways that "[endanger] the emotional and physical well-being of minors."[1003]

931. Google represents that YouTube "has strict policies and robust operations in place to tackle content and behavior that is harmful or exploitative to children."[1004]

932. Google maintains that its guidelines prohibit images, videos, and comments that put children at risk, "including areas such as unwanted sexualization, abuse, and harmful and dangerous acts."[1005]

933. While Google "may place an age restriction on the video,"[1006] its product fails to implement proper age-verification mechanisms to prevent minor users from accessing age restricted content, as discussed above.

934. Google fails to prevent collages of images and videos of children showing their exposed buttocks, underwear, and genitals from racking up millions of views on its product, which are then promoted and monetized by displaying advertisements from major brands alongside the

[1001] *Id.*

[1002] YouTube Partner Program overview & eligibility, https://support.google.com/youtube/answer/72851?hl=en.

[1003] Child safety policy - YouTube help, Google, https://support.google.com/youtube/answer/2801999?hl=en.

[1004] *Id.*

[1005] *Id.*

[1006] *Id.*

content.[1007]

935. Through Google's product, videos of minors revealing their "bathing suit hauls"; playing in pools, beaches, and waterparks; or performing gymnastics are recommended, shown, and promoted to child predators who interact with these videos—including commenting to share "time codes for crotch shots," to direct others to similar videos and to arrange to meet up on other social media products to share and exchange CSAM.[1008]

936. Multiple YouTube channels dedicated to pre-teen models, young girls stretching, and teen beauty are routinely oversexualized and manipulated by predators.[1009]

937. Google's product recommends and promotes abusive behaviors towards children and victimizes unsuspecting minors on a mass scale.

938. When users search for images and videos of minors, Google's algorithm pushes additional videos, which strictly feature children, and this recommended content often includes promoted content for which Google receives value from advertisers.

939. Users of Google's product who search for images and videos of minors are further inundated with comments from other predators that provide hyperlinks to CSAM and opportunities to share CSAM on other products.[1010]

940. On average, Google pays its creators $0.50 to $6.00 per 1,000 views of any video they create, including materials depicting minors in violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.[1011]

941. Google actively participates and receives value for creating content on its product in

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[1007] K.G Orphanides, On YouTube, a network of pedophiles is hiding in plain sight WIRED UK (2019), https://www.wired.co.uk/article/youtube-pedophile-videos-advertising.

[1008] *Id.*

[1009] *Id.*

[1010] *Id.*

[1011] How YouTube creators earn money - how YouTube works, YouTube, https://www.youtube.com/howyoutubeworks/productfeatures/monetization/#:~:text=Advertising%20is%20the%20primary%20way,directly%20profit %20from%20their%20work.

violation of 18 U.S.C. §§ 2252, 2252A, 1591, 1466, and other criminal statutes.

942. Google actively participates and receives value for creating content on its product in violation of laws prohibiting the sexual exploitation of children.

943. Google maintains that it is "dedicated to stopping the spread of online child exploitation videos."[1012] Yet, it fails to implement proper safeguards to prevent the spread of illegal contraband on its product.

944. The troves of data and information about its users that Google collects enable it to detect, report as legally required, and take actions to prevent instances of sexual grooming, sextortion, and CSAM distribution, but it has failed to do so. Google continues to make false representations its "teams work around-the-clock to identify, remove, and report this content."[1013]

945. Google has proprietary technology, CSAI Match, that is supposed to combat CSAI (Child Sexual Abuse Imagery) content online. This technology allows Google to identify known CSAM contraband being promoted, shared, and downloaded on the YouTube product. Google's CSAI Match can identify which portion of the video matches known and previously hashed CSAM and provide a standardized categorization of the CSAM. When a match is detected by Google using CSAI Match, it is flagged so that Google can "responsibly report in accordance to local laws and regulations."[1014]

946. Despite this, Google regularly fails to adequately report known content to NCMEC and law enforcement, and Google fails to take down, remove, and demonetize CSAM.

947. In 2018, Google launched "cutting-edge artificial intelligence (AI) that significantly advances [Google's] existing technologies," which Google claimed "drastically improved"

[1012] YouTube, https://www.youtube.csai-match/.

[1013] Google's efforts to combat online child sexual abuse material, https://transparencyreport.google.com/child-sexual-abuse-material/reporting.

[1014] *Id.*

detection of CSAM that is distributed by its YouTube product.[1015] These claims were false, and misled parents and children into believing its product is safe for minors. Google failed to drastically improve the frequency of CSAM detection, reports, and takedowns on its product.

948. Google claims that it will "continue to invest in technology and organizations to help fight the perpetrators of CSAM and to keep our products and our users safe from this type of abhorrent content."[1016] In reality, it fails to do so. Google fails to invest in adequate age verification and continues to fail to remove CSAM from its product.

949. Google knows or should have known that YouTube facilitates the production, possession, distribution, receipt, transportation, and dissemination of millions of materials that depict obscene visual representations of the sexual abuse of children, or that violate child pornography laws, each year.

950. Google knowingly fails to take adequate and readily available measures to remove these contraband materials from its product in a timely fashion.

951. In violation of 18 U.S.C. § 2258A, Google knowingly fails to report massive amounts of material in violation of 18 U.S.C. § 2256 and 18 U.S.C. § 1466A.

952. YouTube is polluted with illegal material that promotes and facilitates the sexual exploitation of minors, and Google receives value in the form of increased user activity for the dissemination of these materials on its products.

953. Google failed to report materials, in violation of the reporting requirements of 18 U.S.C. § 2258A.[1017]

954. Google knows that its product is unsafe for children and yet fails to implement

[1015] Nikola Todorovic, Using AI to help organizations detect and report Child sexual abuse material online Google (2018), https://blog.google/around-the-globe/google-europe/using-aihelp-organizations-detect-and-report-child-sexual-abuse-material-online/.

[1016] *Id.*

[1017] NCMEC, 2019 CyberTipline reports by Electronic Service Providers (ESP), https://www.missingkids.org/content/dam/missingkids/pdfs/2019-reports-by-esp.pdf.

safeguards to prevent children from accessing its product.

955. Further, there is effectively no way for users to report CSAM on Google's YouTube product. YouTube does not allow users to specifically report any material posted on its product as CSAM or child pornography.[1018]

956. YouTube Mobile does not provide any way to report users, including users who share CSAM on its product. On the desktop, a viewer can report a user, but Google has made the reporting function difficult to access. Furthermore, reporting requires a viewer to have a Google account and be logged in to the account to make the report.[1019]

5. Google failed to adequately warn Plaintiffs and the public about the harm its platforms cause and failed to provide instructions regarding safe use.

957. Google has failed to adequately warn the public, including Plaintiffs and the children and parents within their schools and communities, about the physical and mental health risks posed by its platforms, and the increased resources that Plaintiffs would need expend to address the youth mental health crisis it caused. The risks to minors include a plethora of mental health disorders, such as compulsive use, addiction, eating disorders, anxiety, depression, insomnia, exacerbated executive dysfunction, sexual exploitation from adult users, suicidal ideation, self-harm, and death. The risks to Plaintiffs include having to increase and divert human and financial resources to address the mental health and disciplinary issues of students and minors in their communities as Plaintiffs seek to fulfill their mission (and obligation) to provide America's youth with educational, counselling, health, and other social and disciplinary services and public facilities.

958. Google knew or should have known its design choices and conduct would have a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities, and would lead to Plaintiffs' increased expenditures and diverted resources and should have warned of such.

959. Google targets adolescent users via advertising and marketing materials distributed

[1018] Canadian Centre for Child Protection, Reviewing Child Sexual Abuse Material Reporting Functions on Popular Platforms, https://protectchildren.ca/pdfs/C3P_ReviewingCSAMMaterialReporting_en.pdf.

[1019] *Id.* at p. 18.

throughout digital and traditional media platforms. Its advertising and marketing campaigns fail to provide adequate warnings to potential adolescent consumers of the physical and mental risks associated with using YouTube.

960. Google further fails to adequately warn adolescents, students, and schools and local governments that utilize the platform during the platform registration process. At account setup, Google's platform contains no warning labels, banners, or conspicuous messaging to adequately inform adolescent users of the known risks and potential physical and mental harms associated with usage of its platform. Instead, Google allows adolescents to easily create an account (or multiple accounts), and to access YouTube with or without an account.

961. Google's lack of adequate warnings continues once an adolescent uses YouTube. Google does not adequately inform adolescent users of schools and local governments that utilize the platform that studentdata will be tracked, used to help build a unique algorithmic profile, and potentially sold to Google's advertising clients.

962. Google's failure to warn Local Government and School District Plaintiffs and the public continues even as adolescents exhibit problematic signs of addictive, compulsive use of YouTube. Google does not adequately warn users when their screen time reaches harmful levels or when adolescents are accessing the platform on a habitual and uncontrolled basis.

963. Not only does Google fail to adequately warn users including the Local Government and School District Plaintiffs regarding the risks associated with YouTube, it also does not provide adequate instructions on how adolescents can safely use its platform. A reasonable and responsible company would instruct adolescents on best practices and safety protocols when using a platform known to pose health risks.

964. Google also failed to warn Plaintiffs about the dangerous, addictive nature of its platform, the resulting harms that occur from use of its platforms, and that Plaintiffs would be required to divert and expend additional human and financial resources to provide support to harmed minors through education, counseling, mental health, and other social, and disciplinary services required to be provided by Plaintiffs to address the youth mental health crisis.

965. Google's failure to properly warn and instruct adolescent users and their parents as well as its failure to warn Plaintiffs has proximately caused significant harm to Plaintiffs, who have expended and continue to expend, significant resources addressing the impact of Google's conduct on Plaintiffs' operations, including expending additional resources to provide support to impacted children and families.

V. CAUSES OF ACTION

COUNT ONE — PUBLIC NUISANCE

966. Plaintiffs repeat, reassert and incorporate the allegations contained above as if fully set forth herein.

967. Plaintiffs assert this public nuisance claim against all Defendants under the common law of all states or other jurisdictions whose laws are applicable to any Plaintiffs' claims.

968. Plaintiffs also assert this claim against all Defendants pursuant to Ala. Code § 6-5-120, Cal. Civ. Code § 3479 *et. seq.*; Ga. Code Ann. § 41-1-1, *et seq.*; Idaho Code § 52-101 *et seq.*; Ind. Code Ann. § 32-30-6-6 *et seq.*; La. C.C. Art. 2315 *et. seq.*; Mont. Code Ann. § 27-30-101 *et seq.*; N.D. Cent. Code Ann. § 42-01-01; N.M. Stat. Ann. § 30-8-1; Okla. Stat. Ann. tit. 50, § *1 et seq.*; SDCL § 21-10-1; Utah Code Ann. § 76-10-803 *et seq.*; and Wash. Rev. Code Ann. § 7.48.120 *et. seq.*

969. A public nuisance is an unreasonable interference with a right common to the general public and behavior that unreasonably interferes with the health, safety, peace, comfort, or convenience of the general community. Restatement (Second) of Torts § 821B (1979).

970. Plaintiffs have been subject to a public nuisance as a result of Defendants' conduct described herein, which unreasonably interferes with the health, safety, peace, comfort, or convenience of Plaintiffs' communities and schools. This conduct includes, *inter alia*, Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors to increase their profits at the expense of minors, thereby creating a youth mental health crisis.

971. The public nuisance created by Defendants' actions is substantial and unreasonable—

it has caused and continues to cause significant harm to local governments, school districts, and the community, and the harm inflicted outweighs any offsetting benefit.

972. Defendants knew, or should have known, that the design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors, thereby creating a youth mental health crisis, would create a public nuisance.

973. Plaintiffs have been left to address the youth mental crisis caused by Defendants' conduct by, *inter alia*:

a. Expending, diverting, and increasing human and financial resources (including tax dollars) to provide additional mental health resources to minors;

b. Hiring additional counselors, staff, and personnel for mental health and disciplinary services;

c. Expending and diverting time and resources, and increasing staff to confiscate cell phones and other devices;

d. Expending and diverting time and resources, and increasing staff to communicate and engage with parents and guardians regarding students' attendance and youth mental health and behavioral issues;

e. Expending and diverting resources, and increasing staff to address youth and student discipline issues caused by the mental health crisis;

f. Expending and diverting time and resources, and increasing staff to route students and youth to counselors and mental health service providers;

g. Expending and diverting time and resources, and increasing staff to train staff to identify students and youth exhibiting symptoms of mental health issues;

h. Expending, diverting, and increasing resources for modifications to mental health curriculum;

i. Expending, diverting, and increasing resources for creating education materials for youth, parents, and staff addressing social media addiction and harm;

j. Expending, diverting, and increasing resources to update student handbooks and policies to address use of Defendants' platforms;

k. Expending, diverting, and increasing resources to purchase tools necessary to prevent or limit student's access to social media;

l. Expending, diverting, and increasing resources to develop new and revised teaching plans to address students' altered learning habits, e.g. reduced attention span and inability to communicate effectively due to excessive use of Defendants' platforms;

m. Expending, diverting, and increasing resources to provide additional learning supports to address students' declining achievement e.g. after school support as a result of the negative impact of problematic social media use on students' ability and capacity to learn;

n. Expending, diverting, and increasing resources to investigate and prosecute crimes that result from use of Defendants' platforms and the youth mental health crisis;

o. Expending, diverting, and increasing resources to investigate threats made against schools, students, and members of the community over social media;

p. Expending, diverting, and increasing resources to account for the strain placed on local government's departments of health and human services;

q. Expending, diverting, and increasing resources to account for the strain placed on local government's community-based services such as outpatient therapy, behavioral health services, after school programs and other similar services and programming; and,

r. Expending, diverting, and increasing resources to repair property damage as a result of Defendants' addictive platforms targeted to attract and addict minors.

974. Plaintiffs, their employees, the minors and other residents in their communities, and the students who attend and employees who work in their schools and local governments, have a right to be free from conduct that undermines their health, safety, peace, comfort, and convenience, and/or right to public education. Yet, Defendants' conduct described herein, including design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors, has substantially interfered with the health, safety, peace, comfort, convenience, and/or right to public education of the students, teachers, and employees of Plaintiffs and their schools, and the residents of Plaintiffs' local communities, including minors.

975. Each Defendant has created or assisted in the creation of a condition that is injurious to the health, safety, and welfare of Plaintiffs' communities, and the residents of those communities, including minors, and interferes with the educational environment for students, teachers, and administrators in Plaintiffs' schools. Defendants have each created or assisted in the creation of a condition that significantly disrupts the daily operations and functioning of Plaintiffs' public schools and disturbs the health, safety, peace, comfort, and convenience of Plaintiffs' communities and schools.

976. Defendants' conduct caused, contributed to, and/or was a substantial factor in causing

the public nuisance complained of herein. By designing, developing, marketing, supplying, promoting, advertising, operating, and distributing their platforms in a manner intended to maximize the time youth spend on their respective platforms—despite knowledge of the harms to youth from their wrongful conduct—Defendants directly facilitated the widespread, excessive, and habitual use of their platforms and the public nuisance affecting Plaintiffs. By seeking to capitalize on their success by refining their platforms to increase the time youth spend on their platforms, Defendants directly contributed to the public health crisis and the public nuisance affecting Plaintiffs.

977. Indeed, in order to maximize profits, Defendants have aggressively designed and marketed their social media platforms to attract and addict minors despite the fact that Defendants knew or should have known that minors are much more likely to sustain serious psychological harm through social media use than adults, especially use at the heavy level Defendants sought to achieve through their design and marketing efforts.

978. Defendants have designed and marketed their social media platforms to attract and addict minors because they view adolescents as valuable commodities. Defendants generate revenue by selling advertisements that target minors because children are more likely than adults to use social media, and are more susceptible to heavy social media use resulting from Defendants' design and marketing choices. Minors provide a large audience for advertisers, to whom Defendants seek to sell advertising space to generate significant profits. Knowing this, Defendants have designed, developed, produced, operated, promoted, distributed, and marketed their social media platforms to attract and addict minors and have substantially interfered with the health, safety, peace, comfort, convenience, and/or right to public education of Plaintiffs' students, employees, residents, schools, and communities.

979. In addition, as alleged herein, Defendants have knowingly sought to ensure that minors continuously use their social media platforms by implementing design features and policies that promote addiction and compulsive use, and that cause severe mental harm, while thwarting the ability of parents to keep their children safe and healthy by supervising and limiting the use of Defendants' social media platforms.

980. Defendants' efforts to market their social media platforms to minors have been highly effective, with nearly all minor teenagers, and a substantial number of younger children, using Defendants' social media platforms.

981. While Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors has increased Defendants' profits, Defendants' actions have come at substantial cost to Plaintiffs, as well as their schools and communities.

982. In particular, Defendants' actions have had disastrous consequences for public health in Plaintiffs' schools and communities. In fact, the current state of youth mental health has caused the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association to declare a national emergency. Moreover, in 2021, the U.S. Surgeon General issued an advisory alerting the public that "[r]ecent national surveys of young people have shown alarming increases in the prevalence of certain mental health challenges," and that "[i]n 2019 one in three high school students and half of female students reported persistent feelings of sadness or hopelessness, an overall increase of 40% from 2009."[1020]

983. These dramatic increases in youth mental health deterioration were caused by Defendants' design, promotion, distribution, and marketing of their social media platforms to attract and addict minors.

984. Importantly, as a means of increasing revenue as much as possible, Defendants deliberately design, operate, and market their platforms to maximize minors' screen time. Defendants accomplish this by building design features intended to exploit human psychology. Defendants deliberately target minor users with these features and exploit adolescent users' still-developing decision-making capacity, impulse control, emotional maturity, and poor psychological resiliency.

985. Defendants' actions have a negative effect on minors' mental health, as there is an

[1020] *Protecting Youth Mental Health*, U.S. Surgeon General Advisory (Apr. 11, 2023), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf.

established link between social media use and mental health issues in minors, including anxiety, depression, and self-harm, among others.

986. Thus, Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms to minors has unreasonably interfered with public health in Plaintiffs' schools and communities.

987. Defendants' actions have also unreasonably interfered with the safety, peace, and comfort of Plaintiffs' schools and communities because adolescent use of social media contributes to increased bullying, vandalism, and criminality in Plaintiffs' schools and communities.

988. Nobody except the Defendants—who design their social media platforms to exploit young people's developing minds, and who deliberately promote, distribute, and market their social media platforms to attract and addict minors—could have foreseen this unprecedented youth mental health crisis and its related harms, which are caused by their social media platforms, and which Plaintiffs are forced to address through funding and resources.

989. School districts and local governments have suffered special injury as a result of Defendants' unreasonable interference with the health, safety, peace, comfort, and convenience of the general community.

990. Indeed, school districts and local governments are on the front lines of combatting the negative consequences of Defendants' deliberate choice to promote, distribute, and market their social media platforms to attract and addict minors. The youth mental health crisis is infecting all aspects of education and the ability of young people to participate productively as members of their local communities as adolescents experience record rates of anxiety, depression, and other mental health issues because of Defendants' conduct. Because of Defendants' actions, which have led to a substantial mental health crisis among American minors, children and adolescents perform worse in school, are less likely to attend school, are more likely to commit crimes and acts of vandalism or other acts of property damage, and are more likely to engage in substance abuse and to act out negatively in their local community. All of this negatively affects School Districts' and Local Governments' ability to provide safe communities and schools, as well as the School Districts'

ability to fulfill their educational mission.

991. Moreover, Plaintiffs have a unique responsibility to operate their public schools and/or provide social services to their communities.

992. Defendants' social media platforms have caused a massive disruption to the educational process in schools throughout the United States. Indeed, a report by the American Federation of Teachers "details how school districts across the country are experiencing significant burdens as they respond to tech's predatory and prevalent influence in the classroom … ." The report highlights the impact of students' social media use on the educational environment, noting the "dramatic disruption in the teaching and learning ecosystems of all our nation's schools."[1021] The report confirms that "[d]ealing with social-media related issues detracts from the primary mission of our schools, which is to educate our children" and details the myriad ways in which "[s]chool districts have borne increased costs and expenses in response to the impacts of social media."[1022]

993. Defendants have caused an unreasonable interference with the educational process—including the health, safety, peace, comfort, and convenience of students, teachers, and staff members, as well as educators' ability to teach and students' ability to learn. Students' compulsive use of Defendants' social media platforms greatly frustrates schools' ability to achieve their mandate of educating their students in a safe and healthy environment. Students are suffering from depression, stress, and anxiety, which are serious obstacles to learning. Most middle school and high school students also fail to get enough sleep on school nights, which contributes to poor academic performance.

994. The youth mental health crisis has also caused a wide range of other behavioral issues among students that interfere with schools' ability to teach. There has been a substantial increase in behaviors such as classroom disruptions, students skipping class, the use of electronic devices

[1021] *Likes vs. Learning: The Real Cost of Social Media for Schools*, American Federation of Teachers et al., (July 2023), https://www.aft.org/sites/default/files/media/documents/2023/LikesVSLearning_Report.pdf.

[1022] *Id.*

during class, bullying, and fights. Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms cause these behaviors and, therefore, cause the nuisance that exists in Plaintiffs' schools and communities.

995. Additionally, by taking unreasonable actions that increase the costs of mental health services and other school and community services provided by Plaintiffs, Defendants have interfered with a right common to the general public by diverting tax dollars into projects required to abate the nuisance caused by the Defendants' conduct, rather than having that tax money spent on other public programs and services.

996. In fact, Plaintiffs have been required to unexpectedly expend, divert, and/or increase their limited resources in an effort to alleviate the rising rates of suicidal ideation, depression, anxiety, and other tragic indices of the youth mental health crisis affecting minors in their schools and communities.

997. Additionally, as one of the primary providers of mental health services, local communities have been inundated, and their resources strained, by the increase in youth mental health issues associated with increased social media use. Local governments' social services, including those provided by departments of health and human services, district attorney's criminal investigations and prosecutions, and community-based services such as outpatient therapy, are strained by the ongoing mental health crisis, and Plaintiffs' local governments and public school systems are struggling to provide students and adolescents in their communities with adequate mental health services and are forced to expend additional financial and human resources because of the youth mental health crisis caused by Defendants.

998. Moreover, local communities and school districts must spend additional time and resources dealing with the increased behavioral disruptions and crimes committed by young people because of Defendants' actions. The youth mental health crisis has also caused a wide range of other behavioral issues among adolescents in Plaintiffs' communities that interfere with schools' ability to teach and local communities' ability to provide adequate resources to the community. There has been a substantial increase in behaviors such as classroom disruptions, students skipping class, the

use of electronic devices during class, bullying, and fights in schools, and vandalism and crimes in local communities. Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms cause these behaviors and, therefore, cause the nuisance that exists in the Plaintiffs' schools and communities.

999. Defendants' actions have interfered with the free use and enjoyment of public property, in particular public-school buildings, as well as other public places such as parks, because the increased behavioral disruptions and crimes committed by young people has led to the implementation of additional security measures and otherwise interfered with the peaceful use of Plaintiffs' public schools and other public spaces.

1000. Defendants' actions have also caused damage to Plaintiffs' property, as Plaintiffs must fix property damage caused by minors acting out because of mental, social, and emotional problems and must address vandalism induced by Defendants' actions.

1001. These damages suffered by Plaintiffs have been greater in degree and different in kind than those suffered by the general public.

1002. Addressing the harms caused by Defendants' design, development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors requires Plaintiffs to expend, divert, and increase resources to take measures to address the public nuisance caused by Defendants, as outlined herein.

1003. Fully remedying the nuisance resulting from Defendants' conduct will require additional funding and resources, as well as changes to Defendants' social media platforms.

1004. Defendants are directly responsible for the harm caused by their design, development, production, operation, promotion, distribution, and marketing of their social media platforms. At all times, Defendants maintained complete control over their social media platforms and the means by which minors are able to access and use them.

1005. Because of the nature of social media platforms, Defendants never lose control over the instrumentality that causes the nuisance. Defendants always have the ability to modify their platforms—and, thereby, modify harmful features. Correspondingly, Defendants always have the

power to abate the nuisance that they have caused and continue to cause.

1006. Further, at all relevant times, Defendants have had control over the conduct that created and maintained the social media-spurred youth mental health crises. Defendants control how their social media platforms are designed, developed and operated, and the targeted production, promotion, distribution, and marketing of their social media platforms to attract and addict minors.

1007. Logic, common sense, policy, and precedent indicate Defendants' conduct has caused the damage and harm complained of herein. Defendants knew or had reason to know that their design, development, production, operation, promotion, distribution, and marketing of their platforms would cause students to use their platforms excessively and compulsively, that their marketing methods were designed to appeal to youth, and that their active efforts to increase youth use of their platforms were causing harm to youth and to schools, including youth who attend Plaintiffs' schools and reside in Plaintiffs' communities.

1008. Thus, Defendants knew or reasonably should have known that the harm caused by their behavior outweighed any potential benefit of the use of Defendants' social media platforms by minors, and the public nuisance caused by Defendants to Plaintiffs was reasonably foreseeable, including the financial and economic losses incurred by Plaintiffs.

1009. Defendants' conduct has thus caused and/or contributed to a public nuisance under the laws of all 50 states and the District of Columbia.

1010. As a result of Defendant's conduct, Plaintiffs have incurred damages and are entitled to compensation therefor. Plaintiffs request all the relief to which they are entitled in their own right and relating to the special damage or injury they have suffered, including actual and compensatory damages in an amount to be determined at trial, declaratory and injunctive relief, and an order providing for the abatement of the public nuisance that Defendants have created, payment to Plaintiffs of monies to abate the public nuisance, and enjoining Defendants from future conduct contributing to the public nuisance described above.

1011. Defendants engaged in conduct, as described above, that constituted malice and/or intentional, wanton, willful, or reckless disregard of Plaintiffs' rights, being fully aware of the

probable dangerous consequences of the conduct and deliberately failing to avoid those consequences. Thus, Plaintiffs are also entitled to punitive damages.

COUNT TWO — NEGLIGENCE

1012. Plaintiffs repeat, reassert, and incorporate the allegations contained above as if fully set forth herein.

1013. Plaintiffs assert this negligence claim against all Defendants pursuant to the laws of the fifty states and the District of Columbia.

1014. Generally, negligent conduct constitutes either acts "which a reasonable [person] should recognize as involving an unreasonable risk of causing an invasion of an interest of another or . . . a failure to do any act which is necessary for the protection or assistance of another and which the actor is under a duty to do." Restatement (Second) of Torts § 284 (1965).

1015. Courts also generally recognize that a defendant has engaged in negligent conduct where (1) defendant owed a duty; (2) defendant breached their duty; (3) the defendant's breach caused harm to the plaintiff; and (4) the plaintiff suffered damages and/or injury as a result of the breach.

1016. Defendants acted in ways that a reasonable person should recognize as involving an unreasonable risk of invading the interests of another. Specifically, Defendants knew or should have known that by designing, developing, producing, operating, promoting, distributing, and marketing their social media platforms in ways that caused compulsive use and addiction, thereby inflicting severe mental health harms on minors—including students in Plaintiffs' schools and young residents of Plaintiffs' local communities—there was an unreasonable risk of invading Plaintiffs' interest in providing an adequate education, public facilities, mental health, counseling, and other social and disciplinary services. Indeed, the effects of Defendants' conduct have resulted in a youth mental health crisis that has interfered with Plaintiffs' interest in providing an adequate education, public facilities, mental health, counseling, and other social and disciplinary services, to young people in their local schools and communities.

1017. Moreover, as described above and further detailed below, Defendants' actions

constituted a failure to act in a way which was necessary for the protection or assistance of another and which the actor is under a duty to do. Defendants owed Plaintiffs a duty because, *inter alia*, Defendants failed to act as a reasonable person would under the circumstances; Defendants' acts of targeting adolescents in Plaintiffs' schools and communities were, to a substantial extent, intended to affect Plaintiffs; the harm to Plaintiffs was foreseeable; there was a reasonable degree of certainty that Plaintiffs would suffer injury because of Defendants' actions; Defendants' conduct was closely related to Plaintiffs' injury; there is moral blame attached to Defendants' conduct; any social utility of Defendants' conduct is outweighed by the nature of the risk and foreseeability of harm; the magnitude of Defendants' harm is significant; the nature of the risk taken by Defendants was serious; there is a strong public policy in favor of preventing future harm caused by Defendants' conduct; curbing the youth mental health crisis caused by Defendants' conduct will substantially benefit the public; and Defendants can feasibly engage in alternative conduct without incurring significant costs.

1018. By purposefully designing, developing, producing, operating, promoting, distributing, and marketing their social media platforms to minors to attract and addict adolescents, Defendants failed to act as a reasonable person would under the circumstances where social media platforms were being offered to minors. Each Defendant knew, or in the exercise of reasonable care should have known, of the hazards and dangers of their social media platforms, and specifically that the addictive, compulsive, and repetitive use of Defendants' platforms would negatively impact youth mental health and cause harm to the school districts and local communities that must provide adolescents with an adequate education, public facilities, mental health, counseling and other social and disciplinary services. Accordingly, Defendants' decision to prioritize their own profit making over the substantial negative effects of their conduct on children—and the school districts and local communities on the front lines of combatting the youth mental health crisis caused by Defendants' actions—was unreasonable under the circumstances.

1019. Moreover, to a substantial extent, Defendants' acts were intended to affect Plaintiffs. Indeed, Defendants purposefully targeted the young residents of Plaintiffs' local communities and

students in their schools as a key customer group. Defendants sought to attract and addict this population—to whom Plaintiffs must provide educational, counselling, mental health, and other social and disciplinary services—to expand the use of their social media platforms and increase their profits.

1020. Further, Defendants intentionally sought to infiltrate schools to promote their efforts in attracting and addicting minors to their social media platforms. Illustrative examples of Defendants' conduct that intentionally affected Plaintiffs include, but are not limited to:

a. Meta categorizing high schools as either Facebook or non-Facebook and analyzing Instagram penetration based on which school Instagram users attend.[1023]

b. TikTok, as reflected in its internal documents, knowing that it was disrupting students' school days and their sleep, thereby making focusing and paying attention at school more difficult;[1024]

c. Snapchat (last year) promoting new features and the ability to access Snapchat from a desktop computer, not just a phone, "just in time for back to school" to let students "keep conversations with friends going from any device," underscoring the importance of student users and further emphasizing Snapchat's desire to maximize user engagement, i.e. continuous interaction with the platform, by this key group.[1025] Snapchat, after knowing it had appeal among school-aged children, "ran with it and never looked back;"[1026]

d. Instagram launching Instagram Messaging for personal desktop computers, on April 10, 2020.[1027]

e. YouTube directly advertising itself for use in schools, creating "tips and tricks for bringing YouTube into the classroom;"[1028] and,

[1023] META3047MDL-003-00134688; META3047MDL-003-00022355.

[1024] TIKTOK3047MDL-001-00061318.

[1025] https://newsroom.snap.com/fresh-fall-features.

[1026] https://www.forbes.com/sites/quora/2018/02/16/how-snapchat-gained-success-by-going-viral-at-high-schools-across-los-angeles/?sh=6f1676083b36.

[1027] https://about.instagram.com/blog/engineering/launching-instagram-messaging-on-desktop.

[1028] https://www.youtube.com/Teachers.

f. Defendants' selling information regarding students' social media use to advertisers who wish to target youth at school, when they are around other youth, thereby increasing the spread of their advertisements.

1021. Moreover, Defendants actions were intended to deliberately attract and addict minors to their social media platforms, despite the serious dangers these platforms pose to young people's mental health, and Defendants knew or should have known that Local Government and School District Plaintiffs would foot the bill for the increased staff and spending required to address the youth mental health crisis caused by Defendants' actions. Therefore, Defendants' efforts to attract and addict minors to their social media platforms were necessarily intended to affect Plaintiffs because Defendants deliberately sought to attract and addict the minors in Plaintiffs' schools and communities, and knew or should have known that Local Government and School District Plaintiffs would be required to spend their financial and human resources to address the fallout of Defendants' actions.

1022. The harm to Plaintiffs caused by Defendants' actions was also foreseeable. Defendants purposefully sought to attract and addict minors, who attend Plaintiffs' schools and reside in Plaintiffs' communities, to their social media platforms. Defendants engaged in substantial efforts to promote, distribute, and market their social media platforms to minors despite knowing that their deliberate design choices made the social media platforms incredibly dangerous to adolescents. Moreover, while deliberately seeking to attract and addict minors to their platforms, Defendants were aware that school districts and local communities that provide adolescents with critical educational, counseling, mental health, social, and disciplinary services, would be forced to address, through financial and human resources, the consequences of the devastating impact that compulsive social media has on youth mental health. Accordingly, common sense and reason indicate that Plaintiffs were in the foreseeable zone of risk from Defendants' targeting of minors who reside in Plaintiffs' local communities and attend Plaintiffs' schools.

1023. Defendants' actions had disastrous consequences for youth mental health. Indeed, a growing body of scientific research, including Defendants' own (previously concealed) studies, draws a direct line between Defendants' conscious, intentional design choices and the youth mental

health crisis gripping our nation. The results of this crisis have been overwhelming. For example, fueled by social media addiction, suicide rates for youth are up an alarming 57%. Emergency room visits for anxiety disorders are up 117%. In the decade leading up to 2020, there was a 40% increase in high school students reporting persistent sadness and hopelessness, and a 36% increase in those who attempted to take their own lives. In 2019, one in five high school girls had made a suicide plan. In 2021, one in three girls seriously considered attempting suicide. These grave consequences of Defendants' actions have naturally caused a multitude of foreseeable injuries to Plaintiffs, including requiring Plaintiffs to:

a. Expend, divert and increase human and financial resources to provide additional mental health resources to minors;

b. Hire additional counselors, staff, and personnel for mental health and disciplinary services;

c. Expend, divert, and increase resources, and increase staff to confiscate cell phones and other devices;

d. Expend, divert and increase time and resources, and increase staff to communicate and engage with parents and guardians regarding students' attendance and youth mental health and behavioral issues;

e. Expend and divert resources, and increase staff to address youth and student discipline issues caused by the mental health crisis;

f. Expend and divert time and resources, and increase staff to route students and youth to counselors and mental health service providers;

g. Expend and divert time and resources, and increase staff to train staff to identify students and youth exhibiting symptoms of mental health issues;

h. Expend, divert, and increase resources for modifications to mental health curriculum;

i. Expend, divert, and increase resources for creating education materials for youth, parents, and staff addressing social media addiction and harm;

j. Expend, divert, and increase resources to update student handbooks and policies to address use of Defendants' platforms;

k. Expending, diverting, and increasing resources to purchase tools necessary to prevent or limit student's access to social media;

l. Expending, diverting, and increasing resources to develop new and revised teaching plans to address students' altered learning habits, e.g. reduced attention span and inability to communicate effectively due to excessive use of Defendants' platforms;

m. Expending, diverting, and increasing resources to provide additional learning supports to address students' declining achievement e.g. after school support as a result of the negative impact of problematic social media use on students' ability and capacity to learn;

n. Expend, divert, and increase resources to investigate and prosecute crimes that result from Defendants' conduct and platforms and the youth mental health crisis;

o. Expend, divert, and increase resources to investigate threats made against schools, students, and members of the community over social media;

p. Expend, divert, and increase resources to account for the strain placed on local governments' departments of health and human services;

q. Expend, divert, and increase resources to account for the strain placed on local governments' community-based services such as outpatient therapy, behavioral health services, after school programs and other similar services and programming; and,

r. Expend, divert, and increase resources to repair property damage as a result of Defendants' Defendants' conduct and addictive platforms targeted to attract and addict minors.

1024. Additionally, Defendants knew their actions were having a serious impact on school districts but refused to change their conduct. Indeed, Defendants recognized the importance of infiltrating high schools to their platforms' success, and they intentionally and successfully achieved that infiltration. Internally, Meta acknowledged that "[m]ore than half of U.S. school principals say they're extremely concerned about children's use of social media outside of school." This internal knowledge that Meta's harmful acts would impact Plaintiffs further illustrates that the harm Plaintiffs have suffered due to Defendants' targeting of minors—and the resulting impact on Plaintiffs—was foreseeable.

1025. Moreover, there was a reasonable degree of certainty that Plaintiffs would suffer injury because of Defendants' actions. Because Plaintiffs care for young people on a nearly daily basis and provide critical educational, counseling, mental health, and other social, legal and disciplinary services to minors, it was inevitable that Defendants' acts, which have resulted in an expansive and devastating youth mental health crisis, would cause Plaintiffs to suffer injury by having to expend, divert, and increase resources to address the consequences of Defendants' actions.

1026. Further, Plaintiffs' injury (*i.e.*, having to expend, divert and increase their limited resources to address the ongoing youth mental health crisis) is directly related to Defendants' design,

development, production, operation, promotion, distribution, and marketing of their social media platforms to attract and addict minors. Social media use by minors negatively impacts their mental health, and both external and internal studies demonstrate that Defendants' acts have caused the youth mental health crisis that Plaintiffs must address. Thus, the connection between Defendants' conduct and Plaintiffs' injuries is undeniable.

1027. There is also moral blame attached to Defendants' conduct. Defendants specifically sought to target and addict young people to their social media platforms, while simultaneously making design choices that made their platforms extremely dangerous to children's developing brains. These design choices undermined and interfered with Plaintiffs' ability to provide critical educational, counselling, health, and other social, and disciplinary services.

1028. Further, any social utility in Defendants' design, development, production, operation, promotion, distribution, and marketing of their platforms to adolescents is outweighed by the nature of the risk and foreseeability of harm caused by social media addiction. For example, the National Education Association ("NEA")—one of the nation's largest labor unions, and the largest representing teachers—sounded the alarm about the effect of social media use on students. In a 2018 article in "NEA Today," the organization declared: "Research suggests social media is increasing student anxiety and depression, eclipsing any positive role it could potentially play."[1029] The U.S. Surgeon General has also explained that: "In these digital public spaces, which are privately owned and tend to be run for profit, there can be tension between what's best for the technology company and what's best for the individual user or for society. Business models are often built around maximizing user engagement as opposed to safeguarding users' health and ensuring that users engage with one another in safe and healthy ways."[1030] Even President Biden has asserted that: "The

[1029] *Social Media's Impact on Students' Mental Health Comes Into Focus* at 1, NEA Today (Sept. 27, 2018) https://www.nea.org/nea-today/all-news-articles/social-medias-impact-students-mental-health-comes-focus.

[1030] U.S. Surgeon General's Advisory, *Protecting Youth Mental Health* (Dec. 7, 2021), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf.

risks Big Tech poses for ordinary Americans are clear. Big Tech companies collect huge amounts of data on the things we buy, on the websites we visit, on the places we go and, most troubling of all, on our children."[1031] These statements from respected leaders and organizations highlight the lack of social utility from Defendants' harmful conduct. In contrast, as discussed herein, the nature of the risk and foreseeability of harm to Plaintiffs from Defendants' conduct was substantial.

1029. Further, the magnitude of Defendants' harm is significant. As discussed above, leading teachers' organizations, the U.S. Surgeon General, and the President of the United States have all noted the devastating impact of Defendants' actions on young people. Moreover, this harm negatively impacts Plaintiffs' ability to provide a robust education, public facilities, and adequate counselling, mental health, and other social and disciplinary services—all of which have a substantial negative impact on schools and local communities, as well as society as a whole.

1030. The nature of the risk taken by Defendants was also serious. Indeed, even as the devastating impact of their conduct was unfolding, leading to record rates of youth mental health distress and behavioral disorders, each Defendant pressed ahead with changes designed to keep kids hooked to their platforms. Defendants knew or should have known those changes had a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities and would lead to Plaintiffs' increased expenditures.

1031. Moreover, there is a strong public policy in favor of preventing future harm caused by Defendants' conduct. Defendants' harmful conduct is ongoing, placing an ever-growing strain on Plaintiffs as they seek to fulfill their mission (and obligation) of providing America's youth with educational, counselling, health, and other social and disciplinary services and public facilities. It is in the best interest of society at large for Defendants to be held accountable for their conduct and to assist Plaintiffs—who have limited resources and must carefully determine the best ways to expend tax dollars—in addressing the substantial harm inflicted on Plaintiffs as the first responders tasked

[1031] Joe Biden, *Republicans and Democrats, Unite Against Big Tech Abuses*, Wall St. J. (Jan. 11, 2023), https://www.wsj.com/articles/unite-against-big-tech-abuses-social-media-privacy-competition-antitrust-children-algorithm-11673439411.

with addressing the youth mental health crisis resulting from Defendants' conduct.

1032. Further, curbing the youth mental health crisis caused by Defendants' conduct and providing Plaintiffs with the resources necessary to fully address the youth mental health crisis resulting from Defendants' conduct will substantially benefit the public, as America's youth will be able to obtain the education, counselling, health, and other social and disciplinary services necessary for them to thrive and become productive members of society.

1033. Additionally, Defendants can feasibly engage in alternative conduct without incurring significant costs. Defendants' decisions to purposefully design their social media platforms to addict adolescents is simply driven by a desire to maximize profits with complete disregard for the horrible impact of their actions. Defendants will still be able to run and profit off of their social media platforms even if they are held accountable (as they must be) for the consequences their actions have had on Plaintiffs.

1034. Defendants failed to adequately warn the Plaintiffs about the physical and mental health risks posed by their platforms and the increased resources that Plaintiffs would need to expend to address the youth mental health crisis Defendants caused. The risks to Plaintiffs include having to increase and divert human and financial resources to address the mental health and disciplinary issues of students and minors in their communities as Plaintiffs seek to fulfill their mission (and obligation) to provide America's youth with educational, counselling, health, and other social and disciplinary services and public facilities.

1035. Defendants knew or should have known their design choices and conduct would have a detrimental effect on the wellbeing of youth in Plaintiffs' schools and communities, and would lead to Plaintiffs' increased expenditures and diverted resources and should have warned of such.

1036. Instead, Defendants failed to warn Plaintiffs about the dangerous, addictive nature of their platforms, the resulting harms that occur to minors from use of their platforms, and that Plaintiffs would be required to divert and expend additional human and financial resources to provide support to harmed minors through education, counseling, mental health, and other social, and disciplinary services required to be provided by Plaintiffs to address the youth mental health

crisis.

1037. Defendants' failure to properly warn Plaintiffs has proximately caused significant harm to Plaintiffs, who have expended and continue to expend, significant resources addressing the impact of Defendants' conduct on Plaintiffs' operations, including expending additional resources to provide support to impacted children and families.

1038. At all relevant times, each Defendant could have provided adequate warnings to prevent the harms described herein.

1039. Each Defendant has breached, and continues to breach, the duties it owes to Plaintiffs through its affirmative malfeasance, actions, and business decisions, despite the harmful result those actions and decisions impose on Plaintiffs, who are on the front lines of addressing the youth mental health crisis Defendants' conduct has caused.

1040. As a direct and proximate cause of each Defendants' unreasonable and negligent conduct, Plaintiffs have suffered and will continue to suffer the harm outlined herein.

1041. Moreover, this harm has resulted in injury and damages to Plaintiffs who must expend, divert, and increase resources—including financial resources—to address the harm Defendants have inflicted on Plaintiffs' schools and communities.

1042. Plaintiffs have incurred substantial injury caused by Defendants' conduct and are entitled to damages in an amount to be determined at trial.

1043. Defendants' conduct was also willful, wanton, malicious, fraudulent, and/or grossly negligent, thereby justifying an award of punitive damages against the Defendants.

VII. PRAYER FOR RELIEF

1044. The Local Government and School District Plaintiffs demand judgment against each of the Defendants to the full extent of the law, including but not limited to:

a. entering judgment for the Local Government and School District Plaintiffs, and against each Defendant;

b. entering an Order that the conduct alleged herein constitutes a public nuisance;

c. entering an Order that Defendants are jointly and severally liable;

d. entering an Order requiring Defendants to abate the public nuisance described herein and to deter and/or prevent the resumption of such nuisance;

e. awarding payment of monies to Plaintiffs abate the public nuisance;

f. awarding equitable relief to fund education, counseling, mental health, and other social, and disciplinary services to be provided by Plaintiffs to address the youth mental health crisis;

g. enjoining Defendants From engaging in further actions causing and contributing to the public nuisance as described herein;

h. awarding actual and compensatory damages;

i. awarding punitive damages;

j. awarding statutory damages in the maximum amount permitted by law;

k. awarding attorneys' fees and costs of suit;

l. awarding pre-judgment and post-judgment interest; and,

m. awarding any other relief as this Court may deem equitable and just, or that may be available.

VI. DEMAND FOR JURY TRIAL

1045. Plaintiffs hereby demand a trial by jury.

Dated: March 27, 2024

Respectfully submitted,

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